Author tshingombe tshitadi

Curriculum assessment:

Title

Strategic Evaluation of Advanced Engineering Systems and Pedagogical Innovation: A Professional Audit of Dr. Tshingombe Fiston Tshitadi

Overview

Dr. Tshitadi's career integrates **electrical engineering**, **security systems**, and **education policy**, with a focus on 4IR readiness, curriculum innovation, and traceable compliance systems that support socio-economic development.

Scope

- **Engineering Systems:** AC/DC theory, transformers, motors, PLCs, SCADA.
- **Security Engineering:** Access control, forensic policing logic, infrastructure integrity.
- **Education Policy:** SAQA/DHET frameworks, NATED pathways, curriculum compliance.
- **Socio-Economic Development:** Parliamentary submissions, rural energy research, youth mentorship.

Abstract

A concise audit of a trajectory from TVET foundations to doctoral systems research. Emphasis on automation, nanotechnology, AI integration, and low-code solutions (VBA UserForms) that enable signal-driven, audit-ready technical education and resilient industrial practice.

Description

- **Academic Path:** NATED N1–N3 (St Peace College) → Master's & Doctorate (Atlantic International University).
- **Technical Competence:** Power systems, motor control, PLC/SCADA, diagnostic engines, DLT for secure records.
- **Research Contributions:** Modular learning signals; autodidactic "Copilote" methodology; innovation & discovery record keeping.
- **Policy Engagement:** Submissions to South African parliamentary portfolio committees on higher education, energy, and rural development.

Keywords

Engineering Systems • Security Integrity • Curriculum Policy • 4IR • PLC • SCADA • VBA • Logigram • Nanotechnology • AI • DLT • Compliance • Audit • Socio-Economic Development

Statement — Delivery Management System

A decentralized ecosystem using **VBA UserForms** and logigram logic to manage: student registration and transcripts; engineering diagnostics and trade readiness simulations; inventory and financial compliance; automated audit sheets and bilingual credential exports.

Information & Communication Skills

- **Technical translation:** Convert engineering detail into policy and compliance language.
- **Academic writing:** Thesis, research papers, portfolios of evidence.
- **Stakeholder engagement:** Parliamentary submissions, institutional correspondence, moderation templates.

Administration & Investigation

- **Administration:** Credential mapping, version control, inventory tracking.
- **Investigation:** Forensic policing logic, CCMA/Labour Court processes, complaint tracking.
- **Governance:** Tender documentation, bid compliance, socio-economic advocacy.

Advantages & Disadvantages

Advantages: modular, audit-ready frameworks; scalable low-code tools; integration of AI and nanotech for resilience. **Disadvantages:** cross-domain complexity; interoperability and standards alignment challenges; need for stronger data governance.

Data Analysis & Visual Basic Logigram

- **Data models:** Complaint → Ruling → Rehabilitation; Credential → Export → Audit.
- **Logigram logic:** Star-Delta motor startup flows, ATM simulation, PLC diagnostics, curriculum signal mapping.
- **Automation:** VBA diagnostic engines, compliance audits, curriculum dashboards and export routines.

Audit Conclusion

The portfolio demonstrates a coherent systems approach linking engineering practice to policy impact. To scale impact, prioritize **standardized schemas**, formal **data governance**, and interoperable interfaces across SAQA/DHET/QCTO and industry partners.

Bibliography (Selected Works)

- *Application Trade Discovery: Job Education Research Methodology, Operational Autodidactic Copilote Distance* (F1000Research, 2025).

- *Career Drawing Total Programming: Analysis, Design, Investigation* (F1000Research, 2025).
- Parliamentary submissions to South African Portfolio Committees (Higher Education, Mineral Resources, Agriculture, 2023).
- Thesis: *Rural Energy, Integrity Science, and Educational Frameworks* (Atlantic International University).
- Technical portfolios: VBA UserForms for diagnostics, compliance, and curriculum management.

I can convert this profile into a polished infographic- style HTML report with interactive charts and a timeline using the thematic percentages and competency matrix already outlined; reply **Yes** to proceed or specify any data points you want included.

Career Education Didactic Report

Author: Tshingombe Tshitadi Theme: Curriculum Assessment in Trade & Engineering Education

📖 Overview

This report examines the integration of career education materials, award certificates, diplomas, prizes, and innovative didactic systems within trade and engineering education. It emphasizes curriculum assessment, learner evaluation, and audit-ready documentation.

Scope

- Trade and engineering education at advanced levels
- Credentialing systems: certificates, diplomas, prizes
- Didactic materials: quizzes, evaluation rubrics, learner dashboards
- Innovation and invention recognition in wholesaler and technical contexts

Abstract

Career education thrives when didactic rigor, credentialing, and innovation are combined. This report explores curriculum assessment frameworks, management systems, and audit principles to ensure transparent learner recognition and sustainable educational reform.

Purpose

- To evaluate career education materials and credentialing systems
- To design audit-ready certificates and diplomas

- To integrate innovation and invention into trade wholesaler education
- To establish transparent quiz and mark evaluation systems

Keywords

Career education, didactic report, award certificate, diploma, prize, innovation, invention, trade engineering, wholesaler, quiz, evaluation, curriculum assessment, audit, management system.

Description

The report describes how career education materials can be structured into audit-ready frameworks, ensuring learners receive visible recognition through certificates, diplomas, and prizes. It highlights innovation in trade engineering and wholesaler systems.

⚠ Problematic

- Lack of standardized credentialing across trade education
- Limited recognition of innovation and invention in curricula
- Inconsistent evaluation methods and mark allocation
- Weak audit systems for compliance and transparency

Statement Report

This report asserts that career education must integrate didactic rigor, credentialing, and innovation recognition to empower learners and align with regulatory frameworks.

Management System Information

- Learner dashboards for progress tracking
- Digital credentialing systems (badges, certificates, transcripts)
- Audit-ready documentation aligned with councils and authorities

Principle Investigation

- Alignment of curriculum with regulatory standards
- Evaluation of innovation in trade wholesaler education
- Transparency in quiz and mark evaluation systems

Method Research

- Comparative analysis of credentialing frameworks
- Case studies of trade engineering education
- Surveys of learner and educator experiences
- Audit of management systems for compliance

✅ Advantages

- Transparent credentialing and recognition
- Motivation through prizes and innovation awards
- Audit-ready documentation for compliance
- Learner empowerment via gamified dashboards

❌ Disadvantages

- High administrative burden for audit systems
- Risk of over-standardization limiting creativity
- Resource-intensive management systems

📄 Management System Information (Expanded)

- Integration of LMS with credentialing dashboards
- Automated quiz banks and evaluation rubrics
- Secure audit trails for certificates and diplomas

📊 Conclusion

Career education in trade and engineering requires a balance of didactic rigor, credentialing, and innovation recognition. Audit-ready systems ensure transparency, while prizes and certificates motivate learners to achieve and invent.

💼 Audit

- Verification of certificate and diploma authenticity
- Compliance with national and international councils
- Continuous monitoring of learner progress and evaluation systems

📚 Bibliographic (Sample References)

- Council on Higher Education (CHE) guidelines
- Engineering Council of South Africa (ECSA) standards
- UNESCO TVET frameworks
- International Journal of Technical Education & Training

This structure gives you a **complete academic-style report** that can be adapted into curriculum assessment documentation, certificate design, or audit frameworks.

Would you like me to **expand this into a polished certificate/diploma template** (with placeholders for learner details, marks, and achievements), or into a **sample quiz bank with**

evaluation rubrics to demonstrate the assessment system? Both would make this report more tangible.

Table of Contents

Title 3

Overview 3

Scope 3

Abstract 3

Description 3

Keywords 3

Statement — Delivery Management System 4

Information & Communication Skills 4

Administration & Investigation 4

Advantages & Disadvantages 4

Data Analysis & Visual Basic Logigram 4

Audit Conclusion 4

Bibliography (Selected Works) 4

Career Education Didactic Report 5

📖 Overview 5

📚 Scope 5

📝 Abstract 5

🎯 Purpose 5

🔑 Keywords 6

📃 Description 6

⚠ Problematic 6

📑 Statement Report 6

📋 Management System Information 6

🔍 Principle Investigation 6

Method Research 6

✅ Advantages 7

❌ Disadvantages 7

📋 Management System Information (Expanded) 7

📊 Conclusion 7

Audit 7
Bibliographic (Sample References) 7

Based on 48 sources

Course Title	Description of Modules	Assessment Criteria	Technical/Practical Content	Educational Institution	Regulatory Framework/Body	Target Outcomes	Source
National N Diploma: Engineering Studies (Electrical Engineering N1-N6)	Industrial Electronics, Engineering Drawing, Electrical Trade Theory, Mathematics, Engineering Science, Electrotechnics, Power Machines, Control Systems, Logic Systems.	Trimester/Semester tasks; ICASS (Internal Continuous Assessment) - 40%; External Examinations - 60%; Pre-assessment moderation; Integrated Summative Assessment Task (ISAT); Portfolio of Evidence (PoE).	Panel wiring, DB board building, soldering/desoldering, PLC parameter adjustments, AC/DC machine maintenance, transformer testing, high voltage installations, circuit analysis, and 18–24 months workplace experience.	St Peace College; Shalom Technical; Northlink College; Afric Training Institute; TVET Colleges	DHET; QCTO; SAQA (ID 90674 / 111285); ECSA; Umalusi; MERSETA; SABS (SANS Code).	Achievement of National N Diploma; qualification for trade tests (Electrician, Instrument Technician, Millwright); professional registration as Technician-in-Training.	[1-18]
Engineering Electrical Master (MSEE)	Advanced electrical stability; Electrostatic & electrodynamic transformation; Synchronization vs. Asynchronous Systems; Quantum	Questionnaires and examinations; Videoconferencing assessments; Experimental lab tests; Portfolio-	Electrical system modeling & simulation; Electrostatic conductivity expansion; 3D multidisciplinary approach; Load shedding management;	Atlantic International University (AIU); St Peace College;	DHET; SAQA; NQF Level 6; ECSA; QCTO.	Ability to define, design, and innovate fundamental power systems; mastery of power transformation,	[3, 6, 15, 16, 19, 20]

	mechanics and relativity in electrical loads; Industrial Electronics; Low-voltage regulations; System stress and failure analysis.	based (formative and summative); Experimental log documentation (input/output); Capstone project.	Dynamic system insulation tests; Evaluation of low-voltage stability.	UCPD		synchronization techniques, and business applications.	
AI Fluency Program	Module 1: AI Foundations (Basics, Generative AI, Internet Search); Module 2: Responsible AI; Module 3: Microsoft Copilot; Module 4: AI For All. Chapters cover Knowledge vs Intelligence and Data refinement.	Completion of 44 bite-sized videos; Introduction to AI Quiz; tracked progress; certification eligibility based on module completion.	Machine learning types (supervised, unsupervised, reinforcement learning); neural networks (Deep Learning); pattern recognition; data refinement; real-world applications in diagnostics.	Sci-Bono ICT Academy	Microsoft (Certification Recognition)	AI literacy; earning 6 free certifications; understanding ethical insights and real-world AI utility in engineering and diagnostics.	[7, 21-23]
Career Discovery and Mentoring Framework for Technical and Vocational Education	1. Career Discovery & Orientation; 2. Curriculum Integration & Trade Outcomes; 3. Safety, Policy & Compliance; 4. Engineering & Technical Professions (Electrical Engineering, Job Role Mapping).	Formative and summative assessments; mapping modules to SAQA/NQF descriptors; moderation checklists; Portfolio of Evidence (PoE); benchmarking trade	Workshop-based learning; workplace simulation; trade outcome mapping; electrical engineering diagnostics; digital portfolio development; master skill development.	St Peace College	DHET; SAQA; QCTO; NRF; SARAO	TVET curriculum development and reform; professional teaching frameworks; trade test and apprenticeship readiness; industry readiness for electricians/technicians.	[21-23]

		outcomes against WA codes.					
Drawing Analyse Design System	Transdisciplinary framework integrating engineering drawing principles with educational technology and trade theory. Focuses on schematic interpretation, logigramme (flowchart), and algorigram principles.	Assessment rubrics; SAQA/NQF descriptors; portfolio integration with compliance checklists; exit-level outcomes.	Technical system analysis; fault diagnostics; compliance modeling; visual logic; calibration mapping; interpretation of schematics and WA-coded workplace competencies.	Atlantic International University (AIU) Online Library	SAQA; NQF Alignment	Building fault-tolerant systems; technical mastery; credential-ready portfolios for career development and infrastructure reform.	[5, 24, 25]
Advanced Robotic Process Automation (RPA) in Electrical Engineering	Implementing RPA to automate complex electrical engineering tasks. Covers RPA tools (UiPath, Automation Anywhere, Blue Prism), data migration, and control systems.	Rubric tracking of automation efficiency; error reduction; implementation logs; workflow designs.	Automating circuit simulations, schematic updates, and BOM generation; integration of ML with RPA for predictive maintenance.	Atlantic International University (AIU) Online Library	Not in source	Equip students with skills to streamline and optimize engineering processes; intelligent diagnostics in electrical design.	[2, 10, 11, 24, 25]
Electrician Trade (NSQF Level 5 / NIMI)	Safety practice, hand tools, workshop practice, wires/joints, soldering, basic electrical practice (Ohm's/Kirchhoff's laws), magnetism, AC/DC motor	Performance checks; intermediate test questions; semester-based All India Trade Test (AITT) with MCQs; mark	Hands-on exercises: resistor measurement, diode testing, constructing rectifiers, PCB fabrication, motor starting & control, transformer testing, fault	Industrial Training Institutes (ITIs); NIMI Chennai	NIMI; NCVT; NSQF Level 5; DGT; Ministry of Skill Development & Entrepreneurship (India).	National Trade Certificate (NTC); industry-relevant skills; global skill recognition; job-readiness for Electrician General and	[4, 9, 22, 23]

	drives, Inverter/UPS, and Circuit Breakers.	allocation schedules.	diagnostics, and megger testing.			Electrical Fitter roles.	
Policing, Crime Resolution, and Security Science	Criminal Investigation Principles; Crime Scene Management; Forensic Policing; Law of Evidence; Tactical Policing; Information Management; Patrol and Arrest Procedures.	70% practical assessment and 30% theory; ICASS; external moderation; mock trials; case study analysis.	Fingerprint investigation; forensic analysis (DNA, ballistics); surveillance using GPS trackers; crime mapping; firearm handling (9mm pistol, R5 rifle); case docket preparation.	Africa Institution Police (AIP); St Peace College; DHET / NATED / NCV	SASSETA; SAPS Regulations; PSIRA; Criminal Procedure Act.	Preparation for careers in SAPS, Metropolitan Police, and private security; Resolving of Crime (SAQA ID 59989); forensic and investigative proficiency.	[3, 7, 8, 21-23, 26]
Master's in Urban Water Supply, Sewerage, and Waste Management	Water sourcing, treatment, and distribution; Sewerage Systems Design; Urban Waste Management; Remediation Activities; Policy and Regulation.	Not in source	Engineering principles of sewerage design; IoT sensors for leak detection; membrane filtration; waste-to-energy technologies (anaerobic digestion, gasification).	Atlantic International University (AIU) Online Library	United Nations Sustainable Development Goals (SDG 6 and 11)	Equip graduates to manage essential urban infrastructure sustainably amidst population growth and climate change.	[3, 5, 24, 25]
Master's in Artificial General Intelligence (AGI) and Social Sciences	Introduction to AGI; AGI and Human Cognition; Ethical and Economic Implications; Public Policy and Governance; Social Impact; Human-Machine Collaboration.	Evaluating technical and social dimensions; examination project; grading rubrics.	AGI system theoretical foundations vs. human cognitive processes; labor market effects; regulatory challenges; future scenarios of AGI development.	Atlantic International University (AIU)	Not in source	Prepare students to evaluate and influence the integration of AGI in societal contexts and understand its technical foundations.	[1-3, 13]

Electrical Trade Theory (N1-N3)	Foundational electrical training covering safety, circuits, alternating current theory, conductors, insulators, switchgear, protective devices, batteries, and renewable energy.	Two formal class tests; minimum 40% required for final examination; promotional mark (40% ICASS + 60% Exam).	Practical examples; calculations; neat fully labelled drawings based on SANS 10142-1 regulations; DC theory; wiring systems.	St Peace College / TVET Colleges	DHET; SAQA; QCTO; SANS; ECSA.	Equip students with theoretical knowledge for electrical apprenticeship, learnership, or power utility environments; qualification for Maintenance technician.	[5, 26]
Digital Signal Processing	Advanced DSP transforms (DCT, KLT, wavelets), adaptive filtering (LMS, RLS, Kalman), multirate processing, and spectral estimation.	Design and implementation of adaptive filters; real-time DSP processor labs; MATLAB/ Simulink exercises; simulation of multirate systems.	Noise cancellation; channel equalization; real-time signal processing; DSP processor architectures; discrete-time signals.	Atlantic International University (AIU); NIT Warangal; Unisa (ESP3701)	NRF; SARAO; ECSA.	Mastery of 1-D and 2-D signal processing for telecommunications, electronics, and real-time systems.	[10, 13]
Control Systems Design	Modeling (transfer function, state-space), stability analysis, sensitivity, robust control, observer design, and optimal control (LQR, Kalman filter).	Homework; MATLAB/ Simulink simulations; hardware-in-the-loop (HIL) validation; laboratory experiments; design projects.	State-space and frequency-domain methods; practical implementation using MATLAB/Simulink; hardware-in-the-loop (HIL) validation.	Atlantic International University (AIU); University of Pretoria (MBB780); Purdue (ME57500)	NRF; SARAO; ECSA.	Design of performance-oriented controllers under practical constraints for research and industry roles.	[10, 13]
Advanced	Maxwell's	Problem	Computational	Atlanti	NRF;	Graduate-	[10,

Electromagnetic Theory	equations, wave propagation, radiation, and scattering. Covers electrostatics, magnetostatics, and electrodynamics.	sets; computational simulations (e.g., HFSS); derivations; literature reviews; laboratory experiments on waveguides and antennas.	simulations; analytical methods; waveguides; photonic crystals; and plasma dynamics.	c International University (AIU); University of Buea (PHY715)	SARAO.	level understanding of classical and modern electromagnetic theory foundational for radio astronomy and telecommunications.	13]
Information Management System (IMS) / Information and Inventory Management System (IIMS)	Initial registration; address/birthday capture; account login; supplier, category, product, order, and customer database tables; security scanner and biometric validation.	Simulated user registration across 52 form states; binary indicators (0/1) for success; data integrity checks; cryptographic hash algorithms (SHA256).	Visual Basic (VB) architecture; event-driven subroutines; biometric scanning; Access database linking; validation rules; filters; binary form tracking logic.	St Peace College (link to vocational contexts)	ASEI/PDSI principles; SAQA; DHET; ISO/IEC standards.	Secure registration, biometric validation, and user credential handling; automation of technical and educational documents.	[27]
Smart Grid Integrity & AI Modules	Fault isolation (DL SGWD-AI); AI-enhanced motor optimization (DL OPENLAB-SA-AI); Predictive maintenance (DL I4.0 FACTORY-AI); Anomaly detection (DL	Traceability of fault propagation; AI model output verification; CRC32 checksums for audit logs; QR-coded evidence artifacts.	VBA-driven logigramm/algorigram engines; MQTT topic tracing; PID control simulation; neural feedback loops; digital twin synchronization.	Not in source	IEEE 2030; ISO 27001; IEC 61850; NSQF Levels 5-7.	Ensure smart grid integrity; fault resilience; real-time load balancing; auditable AI workflows for industrial problem solving.	[27]

	AI-BASE).						
Electrical Engineering Trade Test Didactic Strategy	Theory Modules (Electrical science, industrial electronics); Practical Labs (Fault tracing, transformer rewinding, motor control); Assessment Tools.	ICASS (Continuous internal assessment); ISAT (Integrated summative assessment); Trade Test simulations; rubrics; moderation memos.	Transformer rewinding (winding, impregnation, tests); Motor Control (DOL/REV/Star-Delta panels); Fault tracing diagnostics; instrumentation calibration.	St Peace College & Affric Police Institute	DHET; QCTO; SETA; SAQA (NQF Level 5).	Learner holistically prepared for trade certification; issuance of Trade Test Certificate; competency-based mapping for vocational modules.	[27]
BTS Électrotechnique	Focuses on 'smart' electrical installations, energy production, transport, distribution networks, smart buildings, and connected devices.	Final exams; continuous assessment (CCF); Validation of Prior Experience (VAE); official diploma annexes.	Design, optimization, and maintenance of electrical systems; industrial automation; programming business applications; commissioning and performance diagnostics.	Ministry of Higher Education and Research (France); UTBM; Édusco l.	Commission des Titres d'Ingénieur (CTI); RNCP Level 5; European EQF Level 5.	Qualification as a specialist technician for energy systems and smart infrastructures; Employee Technician Supervisor Agent (ETAM) status.	[4, 9]
National Certificate: Electrical Engineering (NQF Level 3)	Metering units, domestic installations, AC rotating machines, Low Voltage networks, and basic electronic theory.	Evidence of competence against Unit Standards; minimum 133 credits including fundamental, core, and elective components.	Installing and commissioning electrical equipment; fault finding and repair of domestic appliances; maintaining high mast lighting; installation of MV transformers.	SAQA-accredited providers (e.g., MQA, EWSETA).	SAQA; OQSF; NQF Level 3.	Employment as a skilled worker or self-employment as a single-phase worker; articulation to NQF Level 4 for Artisan duties.	[4]
Doctor of Technolo	Independent research in a	Submission of a	Advanced research	Cape Penins	CHE; HEQSF;	Original contribution	[4]

gy: Engineering: Electrical	chosen field of Electrical Engineering. Focus on contribution to knowledge production.	dissertation; oral presentations; written record of research justified against relevant trends and theories.	methods; data analysis using mathematical/statistical methods; information technology in data presentation.	ula University of Technology.	SAQA NQF Level 10.	to knowledge in electrical engineering; articulation to Doctorate in Applied Science.	
Bachelor of Engineering in Electrical and Electronic Engineering	Mathematics, physics, design, Java, calculus, electronics, systems, signal processing, control, power, and research project.	Credits completed across levels 5-8; core and elective module validation.	Engineering sciences; software (C++); signal processing; instrumentation; power systems; and control technology.	Independent Institute of Education (IIE)	SAQA ID 101433; HEQSF (CHE); NQF Level 8.	Professional engineering practice; further academic progression to MBA or MPhil.	[9]
Master's in Vertical Farming and Urban Agriculture with Focus on Synthetic Biology	Intersection of vertical farming, urban agriculture, and synthetic biology. Includes DNA sequencing and genetic engineering.	Not in source	Design and implement urban farming systems; genetically modified organisms (GMOs); engineered biosystems; plant optimization tools.	Atlantic International University (AIU)	Not in source	Innovate and lead in the field of sustainable food production and biotechnology.	[2, 5, 24]
Schneider Home Certification	Installing Schneider Inverter, Boost, and Pulse Backup Controller; Commissioning with eSetup App; RMA Instructions.	25-point Certification Test; 80% passing score required.	Wiring Schneider Inverter; installing Schneider Energy Monitor and Square D Relays; Installer Portal usage.	Schneider Electric University / Home and Distribution Academy	NABCEP (3 CEU credits).	Equip installers with knowledge to deploy Schneider Home energy management systems.	[2, 3]

Fundamentals of Power	Electricity concepts; Generation; Power Factor; Volt configurations; Circuit breakers; 7 common power problems; Data center components.	Test Your Knowledge (Course Assessment).	Circuit breaker protection/sizing; Grounding; GFCI/ELCB/RCD operations; Standby power distribution.	Schneider Electric University (Energy University)	IEC; NEMA.	Identify electricity concepts and differentiation of power usages in a data center.	[2]
Clean Energy Technology: Ecotechnology Applications	Renewable energy sources (solar, wind, hydro, geothermal, bioenergy), efficiency, impact assessment, and policy.	Not in source	Strategies for optimizing energy use in buildings; PV/wind system modeling; grid integration.	Atlantic International University (AIU)	Not in source	Equip students with skills to drive innovation in the transition to a low-carbon economy.	[10, 13]
Masters in Immutable Data Storage Solutions for Web Design	Blockchain and distributed ledger technologies, web application security, database systems, and dynamic web design.	Not in source	Blockchain implementation for data integrity; encryption; authentication; secure database architecture.	Atlantic International University (AIU)	Not in source	Development of secure and resilient digital systems for professionals in web platforms.	[10, 13]
Applied Management N6	Management Concepts; Labour Relations; Job Design; Productivity; Performance Management; Marketing Management; Control Systems.	Class tests (60% internal); Practical portfolio (40% internal); Final Mark = 40% Semester + 60% Exam.	Work study and method study; SWOT analysis; Budgeting control scenarios; Software installation for reservations.	DHET (Report 191 Program)	DHET; QCTO.	Equip students with management skills for hospitality and service industries.	[3]

Advanced Legal Studies in Public Administration and Safety	Legal frameworks underpinning public administration. Covers constitutional law, administrative law, policy-making, ethics, human rights, and crisis management.	Judicial review mechanisms and accountability audits.	Public safety laws analysis; enforcement mechanisms; legal compliance in crisis management strategies.	Atlantic International University (AIU)	Constitutional Law.	Ability to navigate complex legal landscapes within the public sector.	[2, 24]
Postgraduate Diploma in Educational Technology	Emerging technologies in Education; Research and evaluation; Online learning design; Digital design; ICT and society; Research methods.	Outcome-based assessment and moderation; formative and summative evaluation.	ICT tools; digital design; online learning platforms; research methodology; and information systems.	Council on Higher Education	SAQA.	Articulation to Bachelor of Education Honours or Master of Education Technology.	[1]
Masters Degree in Electrical Engineering (MBM)	Communication & Investigation; Organization Theory; Experiential Learning; Fundamentals of Knowledge; Advanced Electromagnetics; DSP; Control Systems.	Course objectives completion; Activity to Carry Out; Marks Awarded (100% target); Thesis Proposal; Master Thesis.	Maxwell's equations; wave propagation; boundary condition problems; stability analysis; feedback control systems.	Atlantic International University (AIU)	Not in source	Academic freedom to discover purpose; professional evaluation; graduate study development; income growth.	[19, 20]
Machine Learning in Electrical Engineering	Supervised/unsupervised learning; neural networks (CNN, RNN, GAN);	Implementation of ML algorithms (Python, TensorFlow); case studies;	Python programming; TensorFlow; spectrum access optimization; energy efficiency	Atlantic International University (AIU);	NRF; SARAO.	Design ML algorithms for spectrum access, resource allocation, and signal	[13]

	reinforcement learning; ML for communication and power systems.	project work; seminars.	modeling.	UCT; McGill		processing optimization.	
Cybersecurity Module (DL NGL-CYBER)	OSI Model layers (1-7), physical layer security, ARP spoofing, VLAN segmentation, VPN configuration, and Firewall setup.	Hands-on simulation of 'man in the middle' attacks; firewall configuration exercises; validation against unit standards.	Man-in-the-Middle (MITM) attack simulation; session encryption; network packet analysis (Packet Sniffer).	De Lorenzo Next Generation Lab	SAQA; NQF.	Preparation for roles in digital infrastructure and network security; mastery of cross-layer encryption.	[28, 29]
Next Generation Lab - Artificial Intelligence (DL AI-2.0)	AI basics, Machine Learning, Sensors and Actuators, Data Processing, and Programming using Python and TensorFlow.	Challenge-Based Learning (CBL); validation of AI predictions; real-time data flow analysis.	Neural networks; deep learning; computer vision; path programming (A* algorithm); IoT sensors (NodeMCU, Jetson Nano).	De Lorenzo Laboratory System	Not in source	Development of interdisciplinary skills in software engineering and automation for Industry 4.0.	[28]
Motor Automation Curriculum (DL PLC-MAC)	Thermal relays, contactors, manual motor control (STAR/DELTA), Inverter drive configuration, and PLC programming fundamentals.	Competency-based assessment validated against SAQA/NQF trade test criteria.	PLC-controlled motor start; speed regulation (JOG mode); PID-based closed-loop control; manual reversing circuits.	Not in source	SAQA; NQF.	Professional readiness for industrial automation roles; certified technical proficiency in PLC integration.	[29]
Biomedical Engineering Education	Transducer systems, biosignal conditioning, body	Signal fidelity testing; transducer calibration	Converting biological signals into electrical signals;	St Peace College (proposed)	SAQA; DHET.	Deployment of certified technicians to clinical and public health	[29]

(De Lorenzo)	monitoring (bioelectrical potentials), and therapeutic technologies (magnetotherapy).	mapping; competency-based assessment.	simulation of clinical interventions; therapeutic waveform analysis.			roles; expertise in biomedical instrumentation.	
Career Drawing Material in Didactic Autopedagogie	Panel-Based Teaching; Psychometrical Fundamentals; Phenomenological Engineering Studies; Visual Basic Automation.	Psychometric indicators for career alignment; autopedagogie milestones; self-assessment logs.	Logigram and algorigram logic; Visual Basic UserForms for assessment; SQL integration; credential-linked drawing templates.	Not in source	SAQA NQF; UNESCO; DHET.	Supports self-directed learning and career discovery; enhances traceability and audit compliance.	[30]
UniTrain-I: Electrical Installation Technology	DC Technology, AC Technology, Three-Phase Technology, Measurement techniques, and control technology.	Knowledge testing; interactive experiments; real-time feedback via LabSoft; error simulation tests.	Oscilloscope measurements; circuit analysis; fault detection; guided troubleshooting using software/hardware.	Lucas-N0ulle GmbH	VDE/EN safety standards.	Autonomous technical competence, safety awareness, and technical precision for technicians.	[9]
National 4 & 5 Skills for Work: Engineering & Energy	Mechanical, Electrical/Electronic, Fabrication, and Assembly Skills; Wind Turbine and Solar Hot Water Systems.	Practical tasks with specified tolerance (±3mm); experiential learning; real-world problem solving.	Practical skills for engineering workshops; solar and wind technologies; graphical communication.	Not in source	SCQF (Level 4/5); National Occupational Standards (NOS).	Preparation for direct entry into training; progress to SVQs or Modern Apprenticeships.	[17]
SQA Advanced Certificate & Diploma in	Electrical Principles; Three Phase Induction Motors; Power Electronics;	Written assessment papers (closed-book); laboratory	Inspection and testing of low voltage installations; micro-controller	Not in source	SQA; SCQF Level 7/8.	Practical skills and theoretical knowledge for industrial design, power	[17]

Electrical Engineering	Control Systems; Analogue/Digital Electronics; Switchgear and Protection.	assignments; logbooks; portfolios; assignments.	programming; CAD integration for load distribution.			generation, and automation roles.	
Occupational Certificate: Weapon Systems Mechanic	Knowledge modules (mechanical/electrical), practical skills (inspection/maintenance), and work experience.	Summative assessment; credit validation (Total 543 credits); operational inspection tasks.	Maintenance, repair, and testing of combat weapon systems; stripping/reassembling; test firing.	St Peace College	SAQA ID 99696; QCTO; OQSF.	Operational readiness for Defence Force; articulation to Millwright or N Diploma.	[9]
Engineering Master Doctoral – Rural Implementation Framework	Theoretical and practical modules for rural colleges; multidisciplinary 3D engineering; electromagnetic systems modeling.	Experimental logs; conductivity testing; insulation diagnostics; derivative modeling; correlative matrices.	Quantum mechanics and linearization applied to trade theory; industrial electronics; loadshedding diagnostics.	CSIR – Defence and Security	SAQA/NQF; SABS; OSHA; LRA.	Low-skill transformation through engineering diagnostics; scalable models for rural infrastructure development.	[31]
Mathematics N4	Determinants; Complex Numbers; Trigonometry; Functions and Graphs; Differential Calculus; Integral Calculus.	ICASS (40%) and a 3-hour closed-book final exam (60%).	Solving linear equations via Cramer's Rule; AC circuit analysis via complex numbers; rates of change for engineering systems.	Not in source	DHET; NATED.	Foundation for N5/N6 Mathematics; cognitive skills for engineering problem-solving.	[17]
Industrial Electronics N5	AC Theory (RC/RL circuits); Power Supplies; Amplifiers; Integrated Circuits; Transducers; Oscillators;	Point-based evaluation (100-point scale); tests and practical assignments.	RC Differentiators/Integrators; Zener diode voltage regulation; Transistor biasing; binary to digital signal conversion.	Not in source	DHET; NATED.	In-depth knowledge for careers in power control, signal processing, and automated manufacturing.	[17]

	LCDs.						
Fault Finding and Protective Devices N4	Heavy Current systems; Light Current electronics; Binary Logic and Boolean Algebra.	40% ICASS and 60% Exam; 3-hour closed-book exam.	Systematic symptom analysis; oscilloscope analysis; motor protection (overload relays); logic gate truth tables.	Not in source	DHET; NATED.	Ability to diagnose and rectify electrical faults in industrial machines and automation circuits.	[17]
Sustainability School	Climate Science; Residential Market Mastery; Low Voltage Design; Industrial Automation; Secure Power; Digital Power.	Outcome-based assessments; diagnostic performance logs; sustainability metrics application.	Electricity 4.0; Wiring devices; Overcurrent protection; eMobility; ComPacT NSX; PowerTag sensors.	Schneider Electric Learning Ecosystem	Global sustainability standards; WA codes.	Understand climate science; apply sustainability metrics; align with digitalisation trends.	[32]
Analyzing Reliability in the Data Center	Downtime risk definition; Redundancy costs/benefits; Modularity; Probabilistic Risk Assessment (PRA).	Course Assessment: Test Your Knowledge.	Fault tree analysis; Event tree analysis; Bayesian updating; UPS system testing.	Schneider Electric University	Not in source	Ability to define reliability risks and optimize data center infrastructure.	[3]
Master's in Artificial Specialist Engineering Infrastructure	Advanced Power System Analysis; Renewable Energy; Infrastructure Management; Smart Grids; IoT; High Voltage Engineering.	Advanced power flow analysis; fault analysis; stability assessment; comprehensive exams.	Wind, solar, and hydro power systems; high voltage equipment testing; IoT integration.	Atlantic International University (AIU)	Not in source	Equip students with skills for design, implementation, and management of infrastructure projects.	[1]
Nanotechnology in Electronic	Introduction to Nanotechnology;	Graded on creativity, clarity, and	Building circuits (pencil lead	St Peace College	DST; NRF; SAASTA.	Technical career readiness in	[21]

s	Nanoelectronics; Molecular Electronics; OLEDs; Touchscreen Technology; Risks & Safety.	informativeness; building solar panels; designing safety posters.	conductivity); investigating nano-materials in solar cells; gas sensors for mining safety.			STEM; understanding matter manipulation at the nanoscale for energy and health.	
Advanced Cybersecurity in Bibliotechnology	Threats in Digital Libraries; Data Privacy; Security Policies; Access Control; Digital Rights Management; Network Security.	Risk Assessment techniques; evaluating and mitigating risks in digital libraries.	Encryption; checksums; hashes; firewalls; IDS/IPS; VPNs; blockchain for data management.	Not in source	ISO/IEC 27001.	Prepare students to protect digital libraries and bibliographic databases effectively.	[1]
Masters in Distributed-Ledger Technology (DLT) Applications	DLT principles; DLT in Education; Blockchain for Secure Credentialing; Smart Contracts; DLT-based LMS.	Summative exam; internal and external verification.	Implementation of blockchain for secure credentialing; decentralized data management; smart contract automation.	St Peace College	SAQA; DHET.	Innovate in the educational sector using DLT; enhance data security and integrity.	[25]
Robotic Extension (IMS Modular VB Framework)	Kinematic movement (X, Y, Z); Static/dynamic positioning; Servo mechanisms; PLC command logic; Automation triggers.	Coordinate validation (axes must be ≥ 0); PLC logic execution; simulated servo control success.	Visual Basic; PLC control; servo mechanisms; scattered geo-coordinates; MATLAB CAD integration.	Not in source	Industrial automation standards; mechatronics labs.	Programmable control for technical education or industrial simulation.	[27]

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Based on 50 sources

Candidate Name	Institution/Body	Qualification/Course	Level/ NQF Rank	Subject/Topic	Assessment Score/Mark	Psychometric/ Readiness Indicator (Inferred)	Status/Outcome	Source
Tshingombe	St Peace College /	National N Diploma:	NQF Level 6	Electrical Engineerin	400 Mark	High Readiness (83.9%) -	Diploma awarded /	[1-9]

Tshitadi Fiston	DHET	Electrical Engineering		g (Heavy/Light Current, N4-N6 subjects)		Professional-level capability across theoretical and practical fields; NQF 6 implies preparation for second-level technician roles.	SAQA ID 90674 / 90643; Accreditation pending manual moderation or irregularity resolution.	
Tshingombe Tshitadi Fiston	Atlantic International University (AIU)	Masters / Engineering	NQF Rank 9 (Masters)	Engineering Electrical Assessment: Mathematical modeling, dispersion, and systems thinking (Laplace/Jacobian matrices).	Not in source	Strategic level readiness; High readiness indicated by thesis integration and advanced mathematical focus.	Thesis Integration Final; Citizen requesting release of results statement and award of diploma.	[4, 10, 11]
Tshingombe Tshitadi Fiston	St Peace College & Africa Policing Institute	National Certificate in Traffic and Policing (Resolving of Crime)	NQF Level 6	Criminal Investigation Principles, Administration and Communication Skills, Information Management	70% Practical / 30% Theory	Operational - Vocational training focus ensures readiness for SAPS/Private Security delivery. Matches 100% field interest in Law Enforcement.	Accredited SASSETA 11199969 1949; PSIRA Clearance; Portfolio evidence submitted.	[1, 3, 9, 12]
Tshingombe Tshitadi Fiston	National Instructional Media Institute (NIMI)	Electrician - Trade Practical	NSQF Level 5	Electronic Practice, Control Panel Wiring, AC/DC	Not in source	Very High technical readiness; extensive documentation of hands-on	Qualified through 4th Semester syllabus completio	[13]

				Motor Drives		module completion across 48 technical exercises.	n; certificate issuance pending moderation.	
Tshingombe Tshitadi Fiston	Shalom Technical College	N3: Engineering Studies	NQF Level 4	Electro-Technology, Industrial Orientation, Electrical Trade Theory, Plant Operation Theory	55% (Electro-Tech), 48% (Industrial), 27% (Trade Theory)	Moderate/Low - Competence in electrical principles and industrial orientation, but significant gap in trade-specific knowledge.	Result released 01/02/2024; Failed core Electrical Trade Theory; Invalid subject under investigation.	[1, 14, 15]
Tshingombe Tshitadi Fiston	Shalom Technical College	N4: Engineering Studies	N4 / Level 5	Electrotechnics, Engineering Science, Industrial Electronics, Mathematics	35% (Science), 18% (Electrotechnics)	Low - Struggles with advanced engineering science and core electrical principles at this level.	Fail / Druip; External Examination admission permit issued.	[2, 3, 7, 14]
Tshingombe Tshitadi Fiston	St Peace College	N4 Engineering (Electrical Engineering)	N4 / Level 5	Electrotechnics	40% (Trimester minimum)	Moderate - Based on completion of N4 requirements and internal practical success at Campus M.	Under Investigation (Irregularity case noted for Nov exam).	[1]
Tshingombe Tshitadi Fiston	St Peace College	National Certificate N3	NQF Level 4	Electrotechnics, Engineering Science, Trade Theory	76 (Written Final)	Intermediate - Competent in standard electrical theory and industrial applications.	Exam irregularities noted; Registered.	[5, 8, 12]
Tshing	Afric	N1	N1	Industrial	80%	High - Strong	External	[2]

ombe Tshitadi Fiston	Training Centre	Engineering Studies		Electronics, Engineering Drawing		aptitude for engineering logic and spatial visualization at foundational level.	Examination Statement released.	
Tshingombe Tshitadi Fiston	St Peace College / DHET	National Certificate N1-N2	NQF Level 2-3	Mathematics, Electrotechnics, Logic Systems, Engineering Science	45%	Moderate - Foundational technical readiness established through core mathematics and logic modules.	Registered; SAQA ID 67109 / 67375.	[3, 5]
Tshingombe Tshitadi Fiston	Alison / EduAccess Online	Diploma in Applied Psychology - Consumer Behavior	Diploma	Consumer Decision Process, Theories of Personality, Applied Psychology	100%	High Readiness for HR resource optimization and talent increase modeling based on module completion rates.	Completed; all 9 modules verified.	[10, 11]
Tshingombe Tshitadi Fiston	St Peace College	Panel Electrical Wiring (ISAT)	Level 2	Practical Trade / Panel Electrical Wiring	80%	High - Practical readiness is strong; candidate demonstrates superior manual dexterity and application skills.	Awarded Certificate COM182609001; SAQA award.	[1, 2, 16]
Tshingombe Tshitadi Fiston	St Peace College	Engineering Electrical Aptitude Test	Internal Assessment	Trade Theory Electric, Panel Control Wire, Installation	100 marks (pass score)	High - Demonstrated speed (1-minute typing test) and technical accuracy in 30-minute aptitude	Completed workshop class work.	[5]

						battery.		
Tshingombe Tshitadi Fiston	Google Play Academy / Webassessor	Google Play Store Optimization	Professional Certification	Digital Transformation / IT / Digital Marketing	4.8 (Course rating)	High - Readiness for digital participation in 4IR confirmed via account setup and technical aptitude.	Account confirmed; exam set up in delivery system.	[1, 17]
Tshingombe Tshitadi Fiston	Microsoft Ignite	Accelerate app development by using GitHub Copilot	N/A	AI app development and GitHub Copilot	100%	High Readiness	Pass	[4]
Tshingombe Tshitadi Fiston	NXP Semiconductors	KM35Z512 Three-Phase Smart Power Meter Reference Design	Technical Module	Metrology, RMS current/voltage, and Phase stability	IS14697 class 0.5 compliance	High Readiness	Validation outcome successful.	[10]
Tshingombe Tshitadi Fiston	St Peace College	Mathematics Preparatory Phase	N4/N5/N6	Algebraic Equations, Determinants, Trigonometry, Calculus	10 Mark Award per section	Analytical - Mastery of quadratic and algebraic reasoning for engineering complexity.	Completed assessment iccas Test.	[3]
Tshingombe Tshitadi Fiston	City Power Johannesburg	Work Integrated Learning (WIL)	Trade Exposure	Industrial Metering, Substation Infrastructure, Distribution Network	Not in source	Practical - High field readiness despite lack of formal certification from the provider.	Work integrated learning participant; no formal certificate issued.	[12, 16]
Tshingombe Tshitadi Fiston	African Institute of Police / China Criminal Police College	Policing / Criminal Investigation	NCV Level 2-4	Traffic Law, Paralegal, Crime Prevention, Disciplinary Policy	Not in source	High Integrity/Security Readiness - Professional readiness for public service and investigative	Training record completed; Career exhibition phase.	[9, 12, 16, 18-20]

						theory.		
Tshingombe Tshitadi Fiston	DHET / SAPS	Policing Assessment	NQF 4 (Inferred)	Criminal Law / Investigation of Crime	Not in source	Moderate - Integrated reasoning and observation skills evident through portfolio synthesis of law and engineering.	In progress / Under investigation.	[2]
Tshingombe Tshitadi Fiston	St Peace College	Engineering Science	N1-N3	Module Correct Diagnostic	50/100	Marginally Ready - Meets minimum industry requirements for diagnostic tasks.	Award minimum meeting.	[8]
Tshingombe Tshitadi Fiston	EduAccess Online	Psychometric Assessment for Caregivers and Counsellors	Beginner	Reliability, Validity, and Ethics in Assessment	Not in source	Moderate Readiness	Accredited.	[10]
Tshingombe Tshitadi Fiston	Alison	Essentials of Electrical Safety	CPD Certified	Electrical Safety	Not in source	Moderate Readiness	Certificate issued.	[21]
Tshingombe Tshitadi Fiston	St. Peace College	Electrical Installation	Level 1 Certificate	Design Distribution Board & Sockets	Not in source	Foundation level readiness in basic electrical installation.	Certificate Awarded (31-10-2020).	[14]
Tshingombe Tshitadi Fiston	ETDP SETA	Assessor Application	Not in source	Applied Scope / Education & Training	Not in source	Specialist - Potential for educational leadership, currently hindered by administrative gaps.	Rejected (Missing statement of results and ID).	[12]
Tshitadi Fiston	SAQA	Foreign School Leaving Qualification	Not in source	National School Exit	Not in source	Unrecognized - Non-compliant.	Returned; does not meet requireme	[7]

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Based on 10 sources

Date	Institution / Platform	Item / Module	Type	Status / Progress	Sale Price	Award / Certificate	Notes / Integration Points	Source
2025-10-08	Atlantic International University	MBM302 Master Thesis Review	Academic / Research	Completed	$450	Master of Engineering Systems – Thesis Accepted	Publication: IJETR3156 - Accepted. Submitted to LMS and AIU Library.	[1]
2025-10-08	ECSA / CCMA / Home Affairs	Professional Engineering Registratio	Professional Licensing	Completed	R1,500	Certificate – Registered Professional Engineer	Record submitted to CCMA dispute resolution log and Master Court archive.	[1]

		n						
2025-10-08	Alison Learning	Diploma in Electrical Engineering	Academic / Diploma	Completed	$124.46	CPD Accredited Diploma – Electrical Engineering	Record submitted to SAQA/NQF dashboard and GitHub credential repository.	[1]
2025-10-08	NRF / AIU	MATLAB Research License	Technical License	Completed	R12,000	IJETR3156 – Paper Accepted	SAQA/NQF Level 8; Portfolio artifact submitted to NRF dashboard and AIU Library.	[1]
2025-10-08	NSF / F1000Research	Open Access Publication Fee	Publishing / Research	Completed	$1,200	F1000Research Poster Accepted – Helicases and Translocases	Publication indexed in PubMed Central and linked to AIU thesis. ORCID registry.	[1]
2025-10-08	Schneider Electric / Eaton	EcoStruxure Smart Panel	Technical Installation	Completed	R12,000	Certificate – Energy Management Compliance	Record submitted to GitLab audit log and Azure DevOps billing portal.	[1]
2025-10-08	Eaton Power Advantage	9PX UPS System Sale	Product Assessment	Completed	R18,000	Certificate – Power Management Fundamentals	Record submitted to LMS and GitHub audit log; 1,200 Points - Empower Talent Tier 2.	[1]
2025-10-08	City Power Johannesburg	Smart Meter Installation	Engineering Service	Completed	R3,200	Certificate – Energy Efficiency Compliance	DMR Mining Safety Archive + Municipal Audit Portal.	[1]
2025-10-08	SASSETA / CCMA / NBCPSS / PSSPF	Labour Law & Private Security Compliance Training	Legal / Compliance	Completed	R1,200	Certificate – Workplace Dispute Resolution	Record submitted to MERSETA dashboard and Home Affairs compliance log.	[1]
2025-10-08	Shoprite / CNA / Elektor	Elektor Electronics Starter Kit	Hardware / Kit	Completed	R450	Certificate – Electronics Fundamentals	Record submitted to GitHub credential repository and SAQA/NQF dashboard.	[1]
2025-10-08	GitHub	Reward Model Deployment – PRM	Software Deployment	Completed	$120	Contributor Badge – RewardHub	Record submitted to GitHub audit log and Archive.org metadata index.	[1]
2025-10-	GitHub / Azure DevOps	CI/CD Pipeline Subscripti	Software Subscri	Active	$120	Trailblazer Superbadge – Data Cloud	Record submitted to GitLab audit log and Azure DevOps billing	[1]

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2025-10-08	Metropolitan Police UK	Use of CCTV footage for research	Legal / Data License	Completed	£500	Publication Approved – F1000Research	IP license granted under non-commercial clause; record submitted to ORCID registry.	[1]
2025-10-08	St Peace College	Engineering Drawing Textbook	Academic / Literature	Completed	R350	Certificate – Fundamentals of Electrical Systems	SAQA/NQF Level 5; Portfolio artifact submitted for moderation.	[1]
2025-08-14	Sci-Bono Discovery Centre	Electrical Wiring Kit	Hardware / Safety	Completed	R450	Certificate of Completion – Basic Electrical Safety	Aligned to SAQA/NQF Level 4, WA Code EA2. Portfolio artifact submitted to LMS.	[1]
2018-08-01	National Instructional Media Institute (NIMI)	Electrician 1st Year Trade Theory (NSQF LEVEL - 5)	Academic Credential / Trade Theory	Completed	Rs.285	National Trade Certificate (NTC)	Aligned with NSQF Level 5; syllabus covers safety, circuits, and magnetism; recognized by NCVT.	[2]
2025-10-15	PRM / Industry Services Academy	Engineering Career Discovery Journey: Experimental, Theoretical, Practical	Training	Completed	R0.00	Transcript Record	Integration with SAQA, BICSI, and CPD frameworks.	[3]
2025-10-17	Schneider Electric University	Energy Audits	Online Class	Completed	R0.00	Professional Energy Manager Certification Module	Aligned with SAQA/NQF and NRF/AIU research mapping.	[3]
2025-10-15	NSF Portal	NSF Pitch #00110596	Project Pitch	Pending Review	$1,000	Not in source	Modular framework for power management and vocational innovation.	[3]
Not in source	Atlantic International University (AIU)	Master of Engineering Systems	Academic Credential	In Progress	$3,400	Not in source	Includes credit breakdown for Master's Program; aligns with SAQA/NQF credit matrix.	[4, 5]
202	IASME	Cyber	Cybers	Activ	Not	Certificate ID: CE-	Issued by The IASME	[1,

4-12-13	Consortium Ltd / BlockMark Registry	Essentials Plus	ecurity Certification	e	in source	PLUS-2025-001	Consortium Ltd to Metropolitan Police Friendly Society Limited. Registry Link: https://blockmarktech.com/certificates/CE-PLUS-2025-001. Expiry: 2025-12-13.	3]
2024-11-19	BlockMark Registry	Cyber Essentials	Cybersecurity Certification	Active	Not in source	Cyber Essentials certification mark	Issued by The IASME Consortium Ltd to Metropolitan Police Friendly Society Limited.	[1]
2025-09-01	Ministry of Higher Education and Research (France)	BTS Electrotechnics (RNCP41007)	Technical Qualification	Active	Not in source	Brevet de Technicien Supérieur (BTS)	Level 5 qualification; covers smart electrical installations and energy management.	[2]
2025-10-26	F1000Research	Career drawing total programming: Analysis, Design, Investigation	Academic Research Publication	Completed	Not in source	DOI: 10.7490/f1000research.1120368.1	Modular career-curriculum-signal integration system research. Atlantic International University affiliation.	[6]
2025-10-04	Microsoft Learn / GitHub	Accelerate app development by using GitHub Copilot (APL-2007)	Technical Assessment / Professional Development	Completed	Not in source	Module Assessment Passed (900 XP)	Focus on AI-assisted code completion and unit testing. Training transcript user ID 46307064.	[6]
2024-10-01	SQA	Electrical Engineering Principles (J6CW 47)	Academic Credential	Active	Not in source	SCQF Level 7 (24 credit points)	Part of SQA Advanced Certificate/Diploma. Aligned with DC and AC Principles.	[7]
2023-	SQA	AH Engineerin	Technical	Completed	Not in	Advanced Higher	Assessment of Engineering	[7]

05-16		g Science 2023 (X823/77/11)	Assessment		source		Fundamentals and Structural Analysis. Marks: 75 total.	
2025-05-16	SQA	AH Engineering Science 2025 (X823/77/11)	Technical Assessment	Scheduled	Not in source	Advanced Higher	Section 1 (35 marks) and Section 2 (40 marks). Includes topics like Project Management and Structural Analysis.	[7]
2021-01-01	DHET	Electrotechnics N6 (Report 191)	Engineering Assessment	Completed	Not in source	National N Diploma (upon 24 months experience)	Includes AC/DC Machines and Power Supply; 40% ICASS / 60% Exam weighting.	[2]
2012-07-01	Cape Peninsula University of Technology / SAQA	Doctor of Technology: Engineering: Electrical (ID 78780)	Doctoral Degree	Superseded	Not in source	Doctoral Degree	NQF Level 10; 240 credits; replaced by ID 97019; requires Masters degree.	[2]
2019-12-05	SAQA / QCTO	National Certificate / FETC: Electrical Engineering (ID 72051 / 72052)	Engineering Qualification	Superseded	Not in source	National Certificate	ID 72051: NQF Level 3, 133 credits. ID 72052: NQF Level 4, 130 credits. Includes Mining, PLC, and 3-phase circuits.	[2]
2021-07-01	SAQA / UMALUSI	National Certificate: N2 & N3 Engineering Studies (ID 67375 / 67491)	Academic Credential	Active	Not in source	National Certificate	NQF Level 02 and 03; 40 credits each; foundational workplace learning for apprentices.	[2]
2018-07-01	SAQA / QCTO / Dept of Education	National Certificate: N4 & N6 Engineering Studies (ID 66881 / 67005)	National N Certificate	Active	Not in source	National Certificate	NQF Level 05; pathway to National N Diploma; 40 credits.	[2]
202	Archive.	Design	Educati	Activ	Not	Creative Commons	Grade 10 modular	[6]

5-11-03	org	Career 10 Application Trade Drawing Orthopedagogie Material	onal Resource / Lesson Plan	e	in source	BY-NC-SA 4.0	career pathways. Integrated with NQF outcomes.	
2023-01-01	GitHub	nated-ncv-combination-n-diploma-experience	IT / Engineering Repository	Active	Not in source	Open Source Code	Combination of Nated N-Diploma and NCV. Integration with curriculum flow charts.	[6]
2025-11-07	GitHub	Digital Portfolio	Digital Portfolio Integration	Active	Not in source	Not in source	Mapped to SAQA NQF Level 6 and CCMA compliance logic.	[4]
2024-03-31	SAQA	Annual Report 2023/24	Public Service / Compliance	Completed	Not in source	Audited Financials	Reflects NLRD expansion (24.5M achievements) and NQF policy implementation.	[8]
2022-12-24	DHET / SAQA	Portfolio Evidence Low DHET SAQA SU	Professional Development / Evidence	Completed	Not in source	Credential Evidence	Support for memotech engineering backlog certificates.	[6]
2016-10-06	French Ministry of National Education	Modality of delivery of attestations recognizing competency blocks	Certification Regulation	Active	Not in source	Attestation of Competency Blocks	Related to CAP, Bac Pro, and BTS professional certifications.	[2]
2025-05-21	Digital Factory	Altivar Machine Professional Certification	Curriculum	In Progress	Not in source	Altivar Machine Professional	Version 23.0. Assessor: Yin Zhou. Aligned with trade test readiness.	[3]
2024-	Atlantic Internati	Experimental Thesis	Academic	In Progr	Not in	Not in source	Curriculum Integration and Career Mapping for	[5]

04-06	onal University (AIU)	Proposal	Credential Assessment	ess	source		Engineering Education in Africa.	
2025-10-17	Digital Building Academy	EBO 2023: Engineering EasyLogic	Training	In Progress	Not in source	Not in source	Includes BACnet MS/TP and EIA 485 technical assessment.	[3]
2024-04-18	Underwriters Laboratories (UL) / Cornerstone OnDemand	Electrical Arc Flash Awareness	Online Class	In Progress	Not in source	Not in source	Basic Level. Course Code: GSCHSES0001004.	[3]
2023-01-01	Reddit API Research	Research Access Form	Technical Assessment	In Progress	Not in source	Not in source	Investigating modular, credential-linked didactic systems using Reddit discourse.	[4]
2024-11-18	IEC Webinar	Advancing Standards for Digital Authenticity	Technical Assessment / Professional Development	Active	Not in source	Not in source	Focus on deepfake threats and international standards for multimedia authenticity.	[4]
2024-07-21	DOJ Online	URN 112024CIV000005	Civil Case Filing	Pending Review	Not in source	Not in source	Linked to motor engineering trade recognition and industrial maintenance disputes.	[4]
2024-11-09	Hilbrow SAPS	CAS 297/11/2024	Public Service / Legal Filing	Active	Not in source	Not in source	Affidavit for ID theft follow-up; involvement of Lt Colonel ZT Tshabalala.	[4]
2019-02-08	Labour Court, Johannesburg	JA37/19	Legal Proceeding	Dismissed	Not in source	Not in source	Part of civil case portfolio tracking; linked to PSSPF and CCMA arbitration.	[4]
2018-	Labour Court of	JR2461/15	Legal Proceed	Dismissed	Not in	No cost order	Tshingombe vs Nogada Security Services; case	[4]

04-03	South Africa, Johannesburg		ing (Review of CCMA)		source		struck off due to non-attendance.	
2026-03-15	Glasgow Hidden Gardens	Community Garden Volunteering Day	Responsible Business Task	Planned	Not in source	Not in source	Activity: Creating a new plant bed for spring vegetables. SQA Action included in risk assessment.	[7]
2025-09-01	F1000Research	Career Discovery and Mentoring Framework	Document	Rejected	Not in source	Not in source	Professional development framework for vocational education.	[9]
Not in source	ETDP SETA	ETDP-AS-000006376	Technical Assessment / Assessor Application	Failed	Not in source	Not in source	Rejected due to missing Statement of Results and certified ID.	[4]
2024-01-14	Buildings Business 1 / Cornerstone OnDemand	Physical Infrastructure Management Basics Quiz	Test	Failed	Not in source	Not in source	Score: 30% (Passing Score: 80%). Course Code: BLDSALE1234034.	[3]
2024-01-22	Digital Factory / Cornerstone OnDemand	Robotics	Test	Failed	Not in source	Not in source	Score: 44% (Passing Score: 70%). Course Code: INDTECT0001000.	[3]

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[9] F1000Research Submissions and Rejectionsent

Based on 20 sources

Item ID	Description	Technical Specification	Unit Price	Qualification/NQF Level	Service Provider/Institution	Compliance/ Accreditation Standard	Operational Status	Source
SAQA ID 90674	National N Diploma: Electrical Engineering (Engineering Studies)	360 Credits; encompasses Heavy/Light Current, Binary Logic, Boolean Algebra, Electrotechnics, and Power Machines. Requires N4–N6 certificates plus 18–24 months relevant workplace experience.	R11,000.00 per N-level	NQF Level 6	Department of Higher Education and Training (DHET) / St. Peace College	SAQA, QCTO, SETA	In progress / Ongoing	[1-7]
78780	Doctor of Technology: Engineering: Electrical	240 Credits; High-level research and application within the HEQSF sub-framework.	Not in source	NQF Level 10	Cape Peninsula University of Technology	SAQA	Passed End Date (2014-12-31)	[7]
Not in source	Master of Engineering Systems / Electrical Engineering	Custom-made curriculum including Advanced Electromagn	150.00 USD (Enrollment Fee)	Master's Degree	Atlantic International University (AIU)	Andragogic Studies Certification	Intended for implementation	[4, 8]

		etic Theory (Maxwell′s equations, wave propagation) and Applied Physics.						
Not in source	Postgraduate Diploma in Educational Technology	Modules include emerging technologies, online learning design, and digital design for mind brain.	Not in source	NQF Level 8	Council on Higher Education	NQF Act 57 of 2009	Completed	[4]
APP03/2022	Senior Lecturer: Report 191 Engineering Studies	Electrical and Civil Engineering Mathematics and Mathematical Literacy. Post Level PL2.	R 353,979.00 per annum	NQF Level 6/7	Department of Higher Education and Training (DHET)	SACE (Provisional registration)	Intended for implementation	[9]
111285	National Diploma in Electrical Engineering	360 Credits; progresses through N1–N6 focusing on maintenance, soldering, and system replacement.	Not in source	NQF Level 6	SAQA Accredited Technical Colleges	SAQA	Ongoing / Active	[6, 10]
71638	National Diploma (Engineering Studies)	Subjects include Electrical Trade Theory, Engineering Drawing, Industrial Electronics, and	Not in source	NQF Level 6	Sekhukhune TVET College	SAQA / QCTO	Completed	[2]

		Electrotechnics.						
Not in source	Industrial Electronics (N5)	Advanced electronic principles including AC theory, power supplies, amplifiers, and transducers.	Not in source	NQF Level 6	St. Peace College	SANS 10142-1, OHS Act	Completed	[7]
GP6D 47	SQA Advanced Certificate in Electrical Engineering	96 SCQF credit points; 9 mandatory units including Electrical Principles, Three Phase Induction Motors, and Power Electronics.	Not in source	SCQF Level 7	Scottish Qualifications Authority (SQA)	SCQF	Completed / Active	[10]
HT1R 47	Fundamentals of Control Systems and Transducers	Prerequisite: Engineering Mathematics 3; assessments of transducer functionality and control systems design.	Not in source	SCQF Level 7	Scottish Qualifications Authority (SQA)	SQA Advanced Unit Specification	Completed / Active	[10]
HP41 47	High-Level Engineering Software	Emphasis on writing, testing, and documenting I/O programs including logic operators	Not in source	SCQF Level 7	Scottish Qualifications Authority (SQA)	SQA Advanced Certificate / Diploma	Completed / Active	[10]

		and loops (FOR...DO, REPEAT... UNTIL).						
SAQA ID 66881	National Certificate in Electrical Engineering N4	Post-matric programme covering Mathematics, Industrial Electronics, Engineering Science, and Electrotechnics.	Not in source	NQF Level 4	Department of Higher Education and Training (DHET) / St. Peace College	SAQA / DHET Registered	Completed / Implemented	[1, 3]
SAQA ID 67491	National Certificate in Electrical Engineering N3	Industry practices, administrative procedures, Mathematics, and Electro-technology.	Not in source	NQF Level 3 / NATED N3	St. Peace College / Shalom Technical College	SAQA / DHET / QCTO	Completed / Implemented	[1, 3, 11]
SAQA ID 67375	National Certificate in Electrical Engineering N2	AC circuit theory, conductors, insulators, reticulation, switchgear, protective devices, and DC/AC machines.	Not in source	NQF Level 2 / NATED N2	St. Peace College / TVET Colleges	SAQA / Umalusi / DHET / SANS 10142-1	Completed / Implemented	[1, 3, 11]
SAQA ID 67109	National Certificate in Electrical Engineering N1	Foundational principles of electrical engineering, mathematics, science, and drawing skills.	From R490.00 per month	NQF Level 1 / NATED N1	TVET Colleges / Oxbridge Academy / St. Peace College	SAQA / Umalusi / DHET / QCTO	Completed / Implemented	[1, 3, 5, 11, 12]
72071	National Certificate: Electrical Engineerin	133 Credits; design and installation of electrical	Not in source	NQF Level 3	MQA / DMR / SAQA	SAQA ID 72071, Skills Development Act 29	Passed End Date (2023-	[7]

	g (Mining Specialization)	wire ways.				06-30)		
259037	NQF Unit Standard: Design and Install Electrical Wire Ways	8 Credits; core unit standard for electrical infrastructure.	Not in source	NQF Level 3	SAQA	SABS / SANS Rules	Completed	[9, 13-15]
ID 10259	Fault find, repair and maintenance of three-phase electrical systems	Diagnosis and repair of three-phase electric motors and maintenance of control panels.	Not in source	Occupational Qualification	St. Peace College	SAQA Registered Skill / SABS / SANS	Completed	[11, 12]
ID 258937	Install and maintain LV distribution boards, protection and earthing	Design of low voltage (LV) circuit breakers and installation of equipment in explosive atmospheres.	Not in source	Occupational Qualification	St. Peace College	SAQA / SABS 0142 / SANS 10142	Completed	[11, 12]
ID 263006	Demonstrating an understanding of wiring of premises	Adherence to standard for wiring of premises and installation rules.	Not in source	Occupational Qualification	St. Peace College	SAQA / SANS 10142-1	Completed	[11, 12]
J16G 74	National 4 Skills for Work Engineering Skills: Electrical/ Electronic	6 SCQF credit points; focuses on electrical components and circuitry principles.	Not in source	SCQF Level 4	Scottish Qualifications Authority (SQA)	SCQF	Completed / Active	[10]
4.1.160	Resistor Identificati	Determine value of	Not in source	NSQF Level 5	National Instruction	Bureau of Indian	Completed	[9]

	on and Measurement	resistance by colour code using Multimeter/ Ohmmeter.			al Media Institute (NIMI)	Standards (BIS)		
4.1.163	Rectifier Construction	Construct half-wave, full wave, and bridge rectifiers using semi-conductor diodes; Vdc =0.45 Vs(rms) .	Not in source	NSQF Level 5	National Instructional Media Institute (NIMI)	Not in source	Completed	[9]
4.1.166	Transistor as Electronic Switch	Use transistor as a switch and series voltage regulator; includes Zener diode and BC 107 / SL 100 components.	Not in source	NSQF Level 5	National Instructional Media Institute (NIMI)	Not in source	Completed	[9]
Dalkeith – Lutz 132kV Cable	132kV Cable Supply Project	Double circuit, 200MVA firm; 6 x single core, 2500 mm2 Aluminium XLPE cables; ~4800m route.	Not in source	Not in source	City Power Johannesburg / Eskom	SANS 60840, NRS 077	In progress	[1, 4.15]
1162	Cable 132 kV Aluminium CSA	1000 mm2 Aluminium Conductor, Single Core, XLPE Insulated, Corrugated Seamless	Not in source	Not in source	City Power Johannesburg	CP_TSSPEC_153	Intended for implementation	[3]

		Aluminium.						
6165	Interswitch Switchgear Insert Switch Plug	6.6–12kV, 450 A; 60 degree clockwise turn locking position.	Not in source	Not in source	City Power Johannesburg	SANS 1934, SANS 61230	Intended for implementation	[3, 5]
3551 / SAP 3551	Panel Portable Earthing Equipment	Portable earthing and short-circuiting equipment for panels; nominal voltages 400V to 33 kV.	Not in source	Not in source	City Power Johannesburg	CP_TSSPEC_108	Intended for implementation	[1, 3, 5]
3562 / SAP 3562	High Voltage Portable Earthing Gear	6m long; for system voltages 6.6 to 132 kV to earth three phase devices to ground.	Not in source	Not in source	City Power Johannesburg	CP_TSSPEC_108	Intended for implementation	[1, 3, 5]
9PX UPS	Eaton Power Advantage 9PX UPS System	Line interactive UPS; Efficiency 93% at 100% load; Thermal Dissipation 900–2000 BTU/hr.	R15,000.00	Not in source	Eaton	UL 1778, CSA C22.2, EN 60950, FCC Part 15	Record Submitted	[7, 12]
016000	RDX 320 Vacuum Autoclaves	Size: 23 inch; Model: RDX 14 L Class B; Flow: Inlet 2x1/2 in, Outlet 2x1/2 in.	R550,000.00	Not in source	National Department of Health (NDOH)	ISO 37301 / RFQ 2022/ndoh-0809	Intended for implementation	[11, 16, 17]
LMC100CAA1000	Motion Controller	Processor Modicon	Not in source	Not in source	Schneider Electric	IEC 17025	Completed	[4, 7,

	LMC1000 Axis ACC Kit	M340; max 512 discrete, 128 analog I/O.						16]
ABL8SPS24200	Modicon Regulated Switch Power Supply	3 phase 380 to 500 V input, 24 V output, 20 A.	Not in source	Not in source	Schneider Electric	IEC 17025, SANS Class 0,2	Completed	[4, 7, 16]
GV2ME32	Motor Circuit Breaker TeSys Deca	3P, 24 to 32 A thermal magnetic, screw clamp terminal, button control.	Not in source	Not in source	Schneider Electric	IEC 61508, SIL 2, IEC 60364	Completed	[4, 7, 16]
Not in source	Smart Meter Installation - Industrial Zone 3	Three-phase smart power measurement system using GPRS; 240 VAC (+20%); 0-60A range.	R2,370.00	NQF Level 6	City Power Johannesburg	IEC 62056, IEC 61850	Audit Readiness	[7]
Not in source	Rural Electrification / Solar Home Systems	Supply of 50-watt Solar Home Systems (SHS) producing 0.3-0.4 kWh/day.	ZAR 4,000,000.00 (Budget)	Master's Project	NSF / Department of Energy	Integrated Energy Plan / SANS	Proposed	[12, 17]
ALABFULLTERM	A-Lab Application ID 14	Full term application processing for SABS EMC Department.	R120,000.00	Not in source	SABS Commercial SOC Ltd	SABS EMC	Completed (Ordered)	[18]
INV-0004	Business Engineering Consulting Services	5 Units of Business Engineering; 2 Units of Marketing Engineering.	ZAR 100,920.00	Expert	Tshingombe Tshitadi Engineering	Xero compliance	Completed	[2]

QUO-004536	IEC 62368-1:2023 RLV	Standard for Audio/video, information and communication technology equipment - Safety requirements.	CHF 578.40	Not in source	IEC Sales Department	IEC 62368-1	Intended (Quotation)	[18]
Not in source	Smart Panel	Energy management compliance panel; includes GitLab and Azure DevOps billing portal integration.	R10,000.00 - R12,000.00	Not in source	Schneider Electric	Energy Management Compliance	In progress / Completed	[11, 12]
Not in source	Official ISC2 Certified in Cybersecurity (CC) eTextbook	Covers Security Principles, Incident Response, Access Controls, and Network Security.	24.95 USD	CPE Credits	ISC2	ISC2 Standard	Available	[6]
240-61268959	Substation Automation Design Standard	Transmission substation standard; Ethernet interfaces, VLAN allocations, GOOSE message configurations.	Not in source	Not in source	Eskom	Eskom Standard	Current (Revision 3)	[6]
PWB-001	Audit-	Sectioning	Not in	Not in	Not in	IPC-6010	Comple	[2]

	Ready Checklist Asset	Analysis test method for printed boards.	source	source	source	Class 3	ted (Pass)	
WA Code EA2	Electrical Wiring Kit	Physical training kit for basic electrical safety.	R300.00 - R450.00	NQF Level 4	Sci-Bono Discovery Centre	SAQA / NQF Level 4	In progress / Completed	[11, 12]
JR2461/2015	Court Transcript Transcription Service	Court case record transcription for Labour Relations Act (LRA) compliance.	R30.00 per page	Not in source	Not in source	LRA	Completed	[10]
Not in source	Career Proposal / Program Officer Budget	Grant proposal budget for national program officer / field engineer trainee.	40,000.00	Degree Holder	National Skill Fund / NRF	PAPPGG	In progress	[4, 15]

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Qualification Title	NQF Level	SAQA ID	Institution/Provider	Industry Sector	Key Module/Technical Focus	Accreditation Body	Status/Outcome	Source
Doctorate in Specialist Engineering Infrastructure and Contractors	10	Not in source	Atlantic International University (AIU)	Infrastructure	Electrical Engineering, Power System Analysis, Smart Grids, High Voltage Engineering	Not in source	In-progress	[1-3]
Master of Science in Electrical Engineering (MSEE)	9	Not in source	Atlantic International University (AIU)	Energy / Electrical	Advanced Electromagnetic Theory, DSP, Control Systems, Power Systems, Renewable Energy, IoT & Cyber Security	Not in source	In-progress / Accepted	[1-6]
Master's in Curriculum Development	Not in source	Not in source	Atlantic International University (AIU)	Education	Curriculum Theory and Design, Instructional Strategies, Educational Assessment	Not in source	Diploma	[7]
Postgraduate Diploma in Educational Technology	8	Not in source	Atlantic International University	Educational Technology	Emerging Technologies, Online Learning Design, ICT and Society	Council on Higher Education	Awarded	[1]
Registered Professional Engineer	8	Not in source	ECSA / Home Affairs	Engineering	Professional Registration	ECSA	Awarded	[5]
SQA	SCQF	Not in source	Scottish	Electrical	High Level	SQA	Diploma	[8]

Advanced Diploma in Electrical Engineering	Level 8		Qualifications Authority (SQA)	Engineering	Engineering Software, Synchronous Machines, Switchgear and Protection			
SQA Advanced Certificate in Electrical Engineering	SCQF Level 7	Group award code: GP6D 47	Scottish Qualifications Authority (SQA)	Electrical Engineering	Three Phase Induction Motors, Power Electronics, Programmable Logic Controllers	SQA	Awarded	[8]
National N Diploma in Electrical Engineering	6	90674	St Peace College / DHET	Energy / Electrical	Mathematics, Engineering Science, Electrical Trade Theory, Industrial Electronics, Electrotechnics, Power Machines	SAQA / QCTO / DHET	Diploma / Awarded	[1, 2, 4, 5, 9-12]
National N Diploma in Electrical Engineering	6	111285	St Peace College / UNISA	Energy / Manufacturing	Electrical Trade Theory, Industrial Electronics, Engineering Science, Mathematics, Maintenance, Circuit Analysis	SAQA / QCTO / DHET	Diploma / Awarded	[4, 8, 13, 14]
National N Diploma Engineering Studies:	6	90674	Department of Higher Education and Training (DHET)	Mechanical Engineering	Design, manufacturing, installation, testing, and faultfinding;	SAQA	Diploma	[4]

Mechanical Engineering					fluid power systems; CNC programming			
National Certificate in Electrical Engineering (N6)	6	67005	St Peace College	Electrical Engineering	Mathematics, Industrial Electronics, Engineering Science, Electrotechnics	DHET / SAQA	Final Assessment	[10]
National Certificate in Electrical Engineering (N4-N5)	5	66881 / 66960	St Peace College	Energy / Electrical	Mathematics, Industrial Electronics, Engineering Science, Electrotechnics	DHET	Awarded / In-progress	[10, 11, 15]
SASSETA Assessor & Moderator	5	TIRCG00091061010	St Peace College	Security Management Electronics Engineering	Engineering Fabrication, Security Management, Electronics Engineering	SASSETA	Certified	[12]
Brevet de Technicien Supérieur (BTS) Électrotechnique	Level 5	RNCP41007BC01	French Higher Education	Electrotechnics	Preliminary study and design of an installation	Frence Republique	Competency Block	[12, 16]
Labour Law Training	5	Not in source	SASSETA / CCMA	Legal / Security	Workplace Dispute Resolution	Merseta	Awarded	[5]
National 5 Skills for Work: Energy	SCQF Level 5	Course Code: C258 75	Scottish Qualifications Authority (SQA)	Energy	Domestic Wind Turbine Systems, Domestic Solar Hot Water Systems	SQA	Awarded	[8]
EcoStruxu	5	Not in source	Schneider	Industrial	Industrial	Schneide	Complete	[12]

re Automation Expert	(Mapped)		Electric	Automation	Automation using EcoStruxure	r Electric	d	
Electrician (NSQF Level 5)	5	Not in source	National Instructional Media Institute (NIMI) / ITI	Electrical	Control Panel Wiring, AC/DC Motor Drives, Inverter and UPS, Wires, Joints, Soldering	DGT / NIMI	Trade Practical Completed	[12, 16, 17]
Occupational Certificate: Electrician	4	91761	St Peace College	Energy, Mining, Manufacturing	Rotating Electrical Machinery, Electrical Supply Systems, Fault Finding	QCTO	Awarded	[17]
Further Education and Training Certificate: Electrical Engineering	4	63889	Not in source	Electrical Engineering	Health, Safety, Quality and Legislation, Tools, Equipment and Materials	SAQA	Complete	[17]
Further Education and Training Certificate: Electrical Engineering: Chemical	4	72072	Not in source	Chemical / Electrical	Electricity and Electronics, Wireways and Wiring	SAQA	Complete	[17]
National Certificate in Electrical Engineeri	4	67491	St Peace College / Shalom Technical College	Energy / Construction	Mathematics, Industrial Electronics, Engineering Science,	Umalusi / DHET / SAQA	Awarded / Artisan career path	[5, 9-11, 14]

ng (N3)					Electro-technology, Industrial Orientation			
National Certificate in Electrical Engineering	4	20420	St Peace College	Electrical Engineering	Electrical infrastructure and building skills	CHIETA	In-progress	[9]
National 4 Skills for Work: Engineering Skills	SCQF Level 4	Course Code: C243 74	Scottish Qualifications Authority (SQA)	Engineering	Mechanical, Electrical/Electronic, Fabrication, Manufacture and Assembly	SQA	Awarded	[8]
N3 Electrical Trade Theory	4	Not in source	St Peace College	Energy	Electrical trade theory, safety precautions, DC theory	DHET	Not in source	[4]
Basic Electrical Safety / Certificate in Electrical Safety	4	WA Code EA2	Sci-Bono Discovery Centre	Energy	Electrical Wiring Kit, Basic Electrical Safety	SAQA	Awarded / Certificate	[5, 14]
National Certificate in Electrical Engineering (N2)	3	67375 / 637375	St Peace College	Energy / Power Utility	Mathematics, Industrial Electronics, Engineering Science, Electrical Trade Theory, AC circuit theory	Umalusi / DHET	Awarded / Artisan preparation	[5, 9-11, 14]
National Certificate: Electrical Engineering	3	72051	SAQA	Mining	Electrical Engineering in Mining environment	SAQA	Awarded / Passed End Date	[2]

(Mining)								
National Certificate : Electrical Engineering	3	63790	SAQA	Energy / Electrical	Install and commission DC and AC machines and control gear	SAQA	Awarded	[2]
National Certificate : Electrical Engineering	3	72071	SAQA	Mining	Design and install electrical wire ways	SAQA	Not in source	[12, 16, 18]
Mechatronics	3	Not in source	St Peace College	Manufacturing	Control instrument mechatronics, Air conditioning, refrigeration, hydraulic	Merseta	In-progress	[9, 10]
National N Certificate	3	Not in source	Shalom Technical College	Manufacturing and Assembly	Electrical Trade Theory, Mathematics, Science, Engineering Drawing	Seta	Awarded	[1]
National Certificate in Electrical Engineering (N1)	2	67109 / 6710	St Peace College	Energy / Industrial	Mathematics, Industrial Electronics, Engineering Science, Electrical Trade Theory, Drawing	Umalusi / DHET / SAQA	Awarded / Foundational level	[5, 9-11, 14]
Panel Wiring	2	258937	City Power	Mining / Energy	Install, maintain low voltage, DB protection, panel wiring electrical	Merseta / SAQA	Awarded	[9-11]
National Certificate :	2	20418	Not in source	Electrical	Fundamentals of electricity,	SAQA	Complete	[17]

Electrical Engineering					Electrical safe working practices			
National Certificate: Electrical Engineering (N1-N3)	2 / 3	63375	St Peace College / Afric Training Centre	Engineering	Electrical Trade Theory, Industrial Electronics, Engineering Science, Mathematics	SAQA	Awarded	[12]
National Diploma in Electrical Engineering	Not in source	Not in source	City Power Johannesburg	Energy	Engineering Operations, Metering Services	ECSA	In-progress	[11]
National Trade Certificate	Not in source	Not in source	QCTO / DHET	Engineering / Mining	National Trade Examination (NTE) assessments	QCTO / SETA	Awarded	[15]
Electrical Trade Test	Not in source	Not in source	QCTO	Energy	Testing installation item drawing electrical, motor efficiency	QCTO	Awarded	[11]
National N Diploma: Public Management	Not in source	67041	DHET	Public Administration	Public management protocols	SAQA	Diploma	[4]
Diploma in Solar Energy Engineering	Not in source	Not in source	Alison	Renewable Energy	Solar Energy, Solar Panel Systems, Photovoltaic Power	CPD / Alison	Awarded / Diploma	[1, 13, 14]
Diploma in MS Project for Civil Engineering	Not in source	31136901	Alison	Civil Engineering	Project Management	Alison / CPD	Diploma / In-progress	[1, 13]

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Diploma in Electrical Studies	Not in source	Not in source	Alison	Energy / Engineering	Electrical wiring system, hazards, conductors and cables	CPD UK	In-progress	[4, 8]
Advanced Diploma in Basics of Electrical Technology and Circuit Analysis	Advanced Level	Not in source	Alison	Energy / Engineering	Circuit Analysis, Resistor Types, Electrical Shocks Prevention	CPD UK	Diploma / Certificate	[4, 8]
Diploma in Teaching Skills For Educators	Not in source	Not in source	Alison (CPD)	Education	Pedagogy, Constructivism, Behaviourism, Motivation Theory	Alison	Diploma / Awarded	[5, 14]
Diploma in Robotics	Not in source	Not in source	Alison	Industrial Automation	Mechatronics, Robotic Control	Alison CPD	Awarded	[14]
Diploma in Marine Electrical	Not in source	Not in source	Alison	Maritime	Marine applications involving EMF and capacitance value	Not in source	Diploma	[4]
Advanced Diploma in Basic Electrical Circuits	Not in source	Not in source	Alison	Energy	Circuit properties, mesh/nodal analysis, sinusoid operations	Not in source	Certificate	[4]
Advanced Diploma in Principles of Industrial Engineeri	Not in source	Not in source	Alison	Industrial Engineering	Forecasting, Production Planning and Control	Not in source	Diploma	[4]

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introduction to Data Engineering on Azure	Not in source	Not in source	Microsoft	ICT	Azure Synapse, SQL Pools, Cloud security, data management	Microsoft	Awarded / Certified	[5, 13, 14]
Azure AI Fundamentals	Not in source	Not in source	Microsoft	ICT	AI and Machine Learning	Microsoft	Awarded	[12]
Schneider Home Certification	Not in source	HDAPRDCS0001005	Schneider Electric	Energy Management	Installing and wiring Schneider Inverter, Boost, and Pulse Backup Controller	NABCEP	In Progress	[4]
EcoXpert Smart Grid, Technical, Intermediate	Not in source	Not in source	Schneider Electric University	Smart Grid	Geographic Information Systems (GIS) for Smart Grids	Not in source	In Progress	[4]
Certified in Cybersecurity (CC)	Not in source	Not in source	ISC2	ICT / Security	Security Principles, Incident Response, Network Security	ISC2	In-progress	[4]
Systems Security Certified Practitioner (SSCP)	Not in source	Not in source	ISC2	ICT / Security	Security Operations and Administration, Risk Management, Cryptography	ISC2	In-progress	[4]
ISO 37301:2021 Principle of Complian	Not in source	Not in source	Alison	Legal / Compliance	Compliance Management	CPD	Awarded	[1]

ce Management System								
National Certificate Autotronics	Not in source	Not in source	Merseta	Manufacturing	Electrical Working Drawings	Merseta	Awarded	[1]
Engineering Tradesman Certificate	Not in source	Not in source	QCTO / SEIFSA	Engineering Fabrication	Engineering Fabrication	QCTO	Awarded	[12]
Licensed Electrician Assessment	Not in source	Not in source	NECA	Construction	Electrician safety, reading comprehension, numerical reasoning	Not in source	Awarded	[1]

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Based on 50 sources

ID	Title	Work Item Type	Keywords/Description	Source

1042024CIV004539	tshingombe tshitadi	Civil Law Case	Screen Application, Department of Justice, REPUBLIC OF SOUTH AFRICA	[1]
4702024FCV001046	Tshingombe Tshitadi vs Elizabeth lerumu	Protection Order Case	Domestic Violence, Screen Application, ja 37/19, ja 2461/15	[1]
90674	National N Diploma Engineering	Qualification	SAQA Qualification ID, NQF Level 6, QCTO Quality Assurance	[2]
86	discovery career science technical engineering	Discovery	Engineering project, science discovery, technical engineering	[3]
85	engineering trade programe	Project	Trade program, engineering	[3]
84	nrf engineering	Issue / Project	Azure DevOps work item; Project: thesis master atalantic; NRF, engineering	[3], [4]
83	engineering nated nvc excell research tvet	Issue / Research	Azure DevOps work item; NATED, NVC, Excel, TVET research	[3], [4]
82	engieering visual excell ms word	User Story / Task	Azure DevOps work item; Visual Basic, Excel, MS Word, engineering	[3], [4]
81	engineringvisual basic	Bug / Discovery	Azure DevOps work item; Subject: engineering visual basic	[3], [4]
80	engineerin g visual basic data system	Issue / Project	Azure DevOps work item; Subject: engineering, visual basic, data system	[3], [4]
79	engineering visual basic	User Story / Task	Azure DevOps work item; Visual Basic, engineering	[3], [4]
78	engineering excell visual basic ts	Bug / Discovery	Azure DevOps work item; Keywords: engineering, excel, visual basic	[3], [4]
77	engineering tshingombe	Issue / Project	Azure DevOps work item; Project name: tshingombe, engineering	[3], [4]
76	engineeri g tshingome	Issue / Project	Azure DevOps work item; Tshingombe, engineering	[3], [4]
75	engineering	Issue / Project	Azure DevOps work item; Engineering task	[3], [4]
74	engineering data	Issue / Project	Azure DevOps work item;	[3],

	system		Data system, engineering	[4]
73	engineering	Issue / Project	Azure DevOps work item; Engineering general	[3], [4]
72	engineering	User Story / Task	Azure DevOps work item; Engineering task	[3], [4]
71	engineering	User Story / Task	Azure DevOps work item; Engineering task	[3], [4]
72071	National Certificate: Electrical Engineering: Mining (NQF Level 3)	Qualification	SAQA ID, South African Qualifications Authority	[2]
70	engineering	Bug / Discovery	Azure DevOps work item; Engineering discovery	[3], [4]
69	enginnering tshingombe	Issue / Project	Azure DevOps work item; Tshingombe, engineering	[3], [4]
68	engineering alison	User Story	Azure DevOps work item; Reference: Alison platform	[4]
67	engineering alison master	Bug	Azure DevOps work item	[4]
67491	National Certificate: N3 Engineering Studies	Qualification	SAQA ID, Electrical Trade Theory, Engineering Science, Mathematics	[2]
31	Label31	Label	Visual Basic; UserForm component; Click event	[5]
31	TextBox31	TextBox	Visual Basic; UserForm component; Change event	[5]
29	TextBox29	TextBox	Visual Basic; UserForm component; Change event	[5]
26	Label26	Label	Visual Basic; UserForm component; Click event	[5]
23	Label23	Label	Visual Basic; UserForm component; Click event	[5]
23	Private sub button 23_click	Visual Basic User Form Button	Excel, VBA, Dim result as double, txt input.text, operand1, operand2, Select case [operator]	[6]
20	Label20	Label	Visual Basic; UserForm component; Click event	[5]
19	Label19	Label	Visual Basic; UserForm component; Click event	[5]
17	UserForm17	UserForm	Visual Basic; UserForm component; Terminate event	[5]

16	Label16	Label / Form Label Component	Visual Basic; UserForm component; Click event; Functionality linked to Triac	[5], [7]
11	Label11	Label / Form Label Component	Visual Basic; UserForm component; Click event	[5], [7]
9	TextBox9	TextBox / Form TextBox Component	Visual Basic; UserForm component; KeyDown event; Protocol IEC61850; Feeder Tripped (FDR-TRP)	[5], [7]
8	TextBox8	TextBox	Visual Basic; UserForm component; Change event	[5]
6	TextBox6	TextBox	Visual Basic; UserForm component; Change event	[5]
5	Label5	Label	Visual Basic; UserForm component; Click event	[5]
5	TextBox5	TextBox	Visual Basic; UserForm component; Change event	[5]
4	Label4	Label	Visual Basic; UserForm component; Click event	[5]
4	TextBox4	TextBox	Visual Basic; UserForm component; Change event	[5]
3	Label3	Label	Visual Basic; UserForm component; Click event	[5]
3	TextBox3	TextBox	Visual Basic; UserForm component; Change event	[5]
3	UserForm3	UserForm / VBA UserForm	Career integration; module class worksheet; education info code; ComboBox1_Change; ListBox1_Click	[5], [6]
2	TextBox2	TextBox	Visual Basic; UserForm component; SHA ID output; Certificate issuance	[5]
1	Frame1	Frame	Visual Basic; UserForm component; Click event	[5]
1	TextBox1	TextBox / VBA Control Task	Visual Basic; UserForm component; ProductName input; BeforeDragOver; DataObject	[5], [6]
002	WRITE DATA TO PLC	PLC COMMUNICATION PROGRAMME	TSHINGOMBE@GMAIL.COM, PLC IP ADRESS, PLC READ DATA, PLC WRITE DATA	[6]

GP 49/3/17	Detective Officer: Economic Crimes	SAPS Job Reference	Hillbrow Station, Investigation Team B, NQF 6 qualification	[1]
GP 38/3/17	Sub Section Commander: Shifts	SAPS Job Reference	Hillbrow Station, Crime Prevention, NQF 6 qualification	[1]
INV-0004	Invoice for Engineering Services	Billing	Business Engineering, Marketing Engineering, ZAR 100,920.00, Shoprite client	[2]
Kfrm1	Initial Registration	Form	Information Management System (IMS); name, surname, ID, cellphone capture; Visual Basic	[5], [8]
Kfrm2	Address and Birthday Capture	Form	Information Management System (IMS); address and birthday data; Visual Basic	[5], [8]
Kfrm3	Registration Confirmation	Form	Information Management System (IMS); confirmation module; Visual Basic	[5], [8]
Kfrm4	Account Login	Form	Information Management System (IMS); password recovery; Visual Basic	[5], [8]
Kfrm5	Password Resend	Form	Information Management System (IMS); record saving; Visual Basic	[5], [8]
Kfrm6	Biometric Scan	Form	Information Management System (IMS); biometric validation; security; Visual Basic	[5], [8]
Label23	METERING BOARD ELECTRONIC	UI Label	BASE THREE PHASE SMART POWER, SERIES MKM35512	[6]
Label caption	student ,name	User form property	frm dataentry, student registration form, Height: 484, Width: 571	[6]
Macro1	Code resetb and initialize form	Excel Macro	Sub reset_form(), txt student name.text, backcolor, vb white	[6]
PWB-001	Audit-Ready Checklist	Engineering Asset ID	Standard Applied: IPC-6010 Class 3; Test Method: Sectioning Analysis	[9]
Uc1	Create Account	Use Case	Crime Management System;	[10]

			Actor: Administrator	
Uc28	Register Employee	Use Case	Crime Management System; Actor: Human Resource Manager	[10]
UserForm1	CommandButton1_Click	VBA UserForm	Private Sub, CommandButton2_Click, Frame1_Click, Label1_Click	[6]
UserForm12	UserForm computer x 1	VBA UserForm	ClientHeight = 8736, ClientWidth = 19764, CenterOwner	[6]
CommandButton7	evaluate proposal, develom	VBA Button Component	marketing research, scope definition plan, selection criteria	[11]
N/A	Web-Based Crime Management System	Project	Samara City Main Police Station; online reporting; computerized crime records	[5]
N/A	Automated student's registration form	Database Labs Form	Excel, VBA, student name, father name, dob, gender, course, mobile number, email id	[6]
N/A	Simple calculation in vb	Interface Definition	Visual Basic, text field, buttons for numbers, operator button, result button, clear, back space	[6]
N/A	Read data plc to send command	C# Programming	PLC, device code, network number, demand object, write command, base address	[6]
N/A	AGI in Human-Machine Collaboration	Topic Task	Exploring how AGI can augment human capabilities	[6]

[1] tshingombe REPUBLIC OF SOUTH AFRICA.docx
[2] new career engineering.pdf
[3] Work items - Boards azure.pdf
[4] Work items - Boards azure tshingombe.pdf
[5] UserForm 90004444 career totand and trade portoloio.frm1.pdf
[6] Doc13 design tshing.docx
[7] TRADE THEORY AND PRATICAL TOOLS LAB WORKSHOP MANUFACTURE,,, framework.pdf
[8] UserForm total career outcom 90000333 , completed tota.frm to trade.frmt5.pdf
[9] new 2career engineering.2.pdf
[10] UserForm17 police student registrar tshingombe tank ,,career.frm3.pdf

Based on 50 sources

Object Name	Label Text	Associated Variable or Value	Function or Event Type	Project Context	Department or Institution	Source
Not in source	Web-Based Crime Management System	https://doi.org/10.32388/JGU5FH	Information System	Crime records and online complaining	Samara City Main Police Station	[1]
Label2	requiremn	text1	Not in source	Web-Based Crime Management System	Samara City Main Police Station	[2]
txt_label9	Community Policing and Communication Skills	true	Not in source	Crime Record Center Information System	Republic of South Africa Department of Justice and Constitutional Development	[3]
txt_label3	managemnt system informatio n	true	Not in source	Criminal Record Center	High Court of South Africa	[3]
Not in source	Not in source	Ja 37/19	Appeal	Domestic Violence Act Appeal	High Court of South Africa	[4]
Not in source	Not in source	Not in source	Not in source	Economic Crime investigation	South African Police Service (Hillbrow Station)	[4]
cmdMove	Move	ActivateServo(xPos,	Click	Robotic	Technical	[5]

		yPos, zPos)		Control Interface (KfrmRobot)	Education / Mechatronics Lab	
txtX	X Coordinate	xPos	cmdMove_Click	Robotic Control Interface	Not in source	[1]
cmdPLCCommand	PLC Command	cboPLCCommand.text	Click	Robotic Control Interface (KfrmRobot)	Technical Education	[5]
txtName	Name	cboName.text; txtSurname, txtID, txtCellphone	Change; cmdNext_Click	Information Management System (IMS) - Kfrm1	Not in source	[1, 5]
cmdNext	Next	Kfrm2.Show	Click	IMS Initial Registration (Kfrm1)	Not in source	[5]
txtAddress	Address	txtBirthday	cmdSend_Click	Information Management System (IMS) - Kfrm2	Not in source	[1]
cmdSend	Send	Kfrm3.Show	Click	IMS Address and Birthday (Kfrm2)	Not in source	[5]
txtUsername	Username	admin	cmdLogin_Click	Information Management System (IMS) - Kfrm4	Not in source	[1]
cmdLogin	Login	Kfrm5.Show	Click	IMS Account	Not in source	[5]

				login (Kfrm4)		
Frame1	Not in source	Not in source	Click	Information Management System (IMS)	Not in source	[5]
ScrollBar1	Not in source	Not in source	Change	Information Management System (IMS)	Not in source	[5]
SpinButton1	Not in source	Not in source	Change	Information Management System (IMS)	Not in source	[5]
TabStrip1	Not in source	Not in source	Change	Information Management System (IMS)	Not in source	[5]
TextBox10	Not in source	Not in source	Change	Information Management System (IMS)	Not in source	[5]
txtCandidateName	Candidate Name	txtAssessmentScore >= 70	Submit Assessment; Initialize	Certification Assessment Form (Kfrm)	Professional Certification Workflow	[1, 5]
txtAssessmentScore	Assessment Score	val(txtAssessmentScore.text)	Submit	Certification Assessment Form (Kfrm)	Professional Certification Workflow	[5]
UserForm3	UserForm3	800x600 display; UserForm3tshingombe.frx	Academic; UserForm Definition	Vocational Trade Develop	St Peace College	[1, 6]

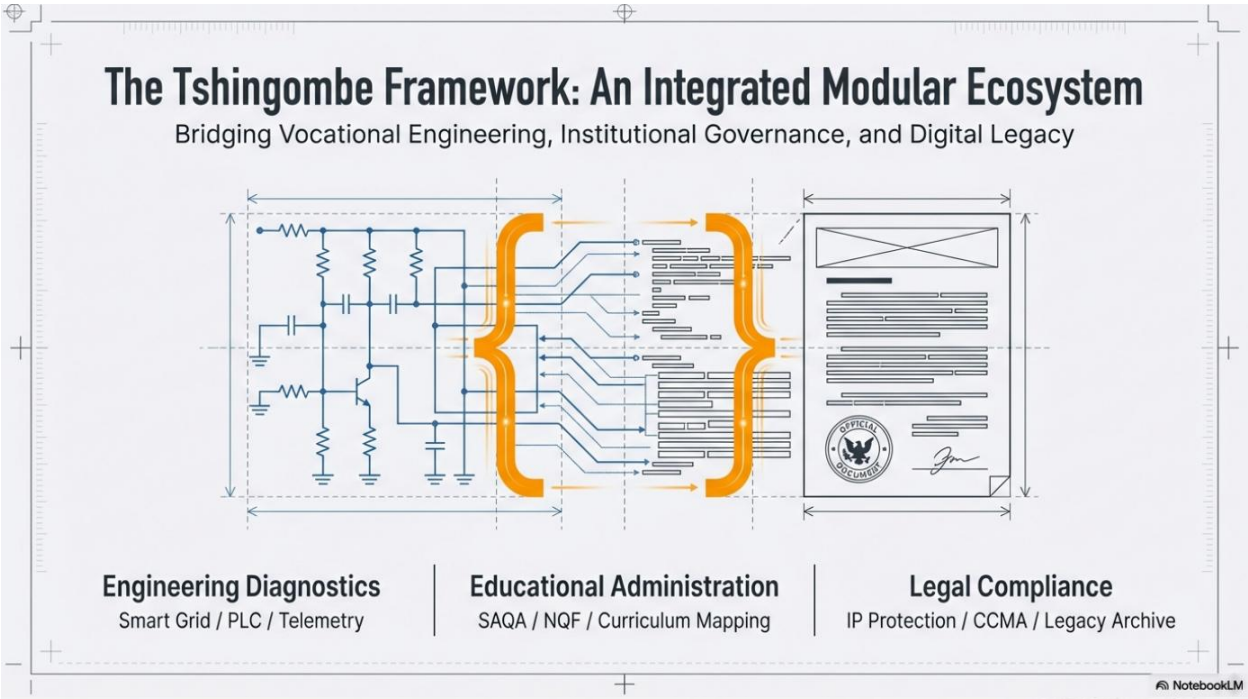
				ment		
Label3	train kit	text 2	Click	Trade Theory Engineering	Not in source	[2, 7]
UserForm1	UserForm1	Not in source	Initialize	Trade Theory Engineering Artificial Intelligent Counter	Not in source	[8]
Label11	number	text10	Click	Trade Theory and Practical Tools Lab Workshop Manufacture	Not in source	[1, 2]
Label4	material copp	text3	Click	Practical Tools Lab Workshop	Not in source	[2, 7]
TextBox9	Not in source	IEC61850	KeyDown	IED configuration / fault isolation	Not in source	[1, 2]
Button	Request an intellectual property (IP) licence	Trademark request	Form Submission	IP Licensing Request	Metropolitan Police Service	[9]
txtTo	Recipient	txtSubject, txtBody	Email Message Composer	Email Message System	Not in source	[1]
cmdInsertAttachment	Insert Attachment	MsgBox "Attachment inserted..."	Click	Email Message System	Administrative Support	[5]
chkAutoReply	Out-of-office	txtStartTime, txtEndTime	Out-of-Office Assistant	Email Message	Not in source	[1]

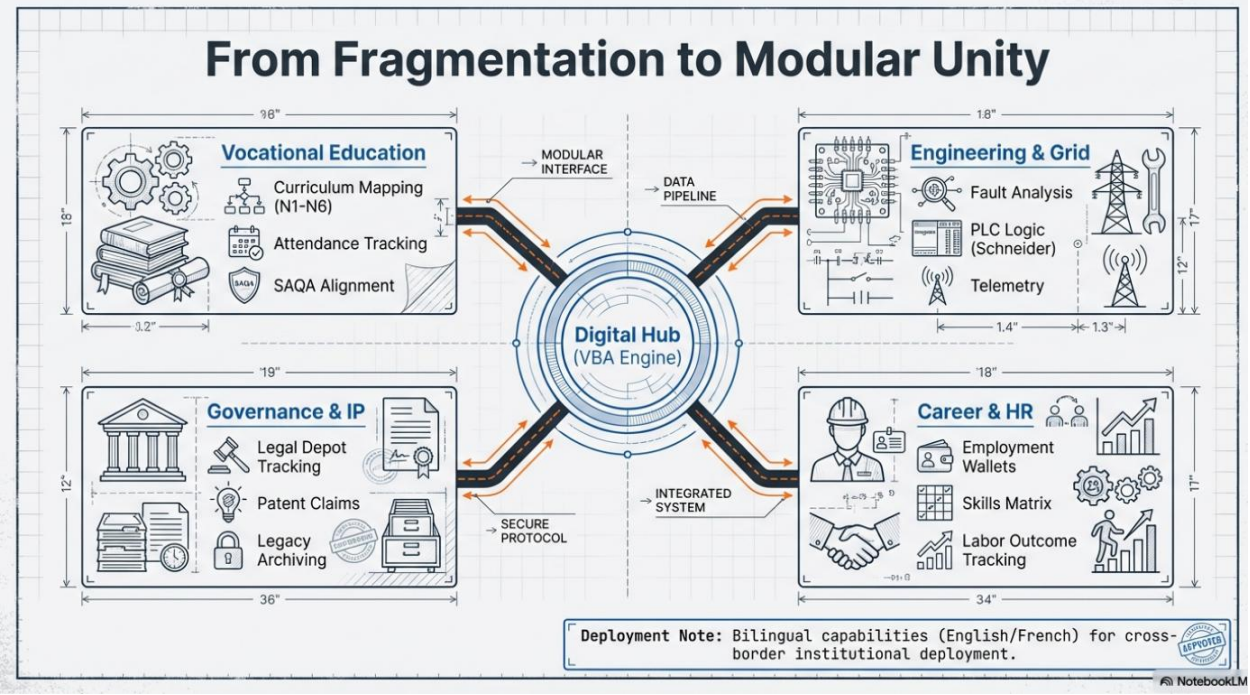
	replies			System		
TextBox1	ProductName	productName	Change	Product Certificate Issuance	Not in source	[1, 2]
TextBox2	SHA ID output	GenerateSHA256(productName)	Change	Product Certificate Issuance	Not in source	[1, 2]
txtQuantity	Quantity	qty * price; val(txtQuantity.text)	cmdCalculate_Click; Exit	Customer Transaction System	Not in source	[1, 5]
txtDiscount	Discount	val(txtDiscount.text)	Exit	Customer Transaction System	Not in source	[5]
button 23	Not in source	operand1 + operand2	Click	Simple calculation in vb visua basic	Not in source	[6]
cm add	Not in source	[operator]=’+’	Click	Simple calculation in vb visua basic	Not in source	[6]
cmd clear	Not in source	txt input text = ’ ’	Click	Simple calculation in vb visua basic	Not in source	[6]
pinBox	Not in source	9343	Not in source	ATM Program	Not in source	[10]
confirmButton	Not in source	9343	Click	ATM Transaction System	Not in source	[10]
Label12	Not in source	Not in source	Click	Visual Basic ATM Program	Not in source	[6]
Button	Submit	tshingombe	Submit	Elektor Jumpstart	Elektor Labs	[9]

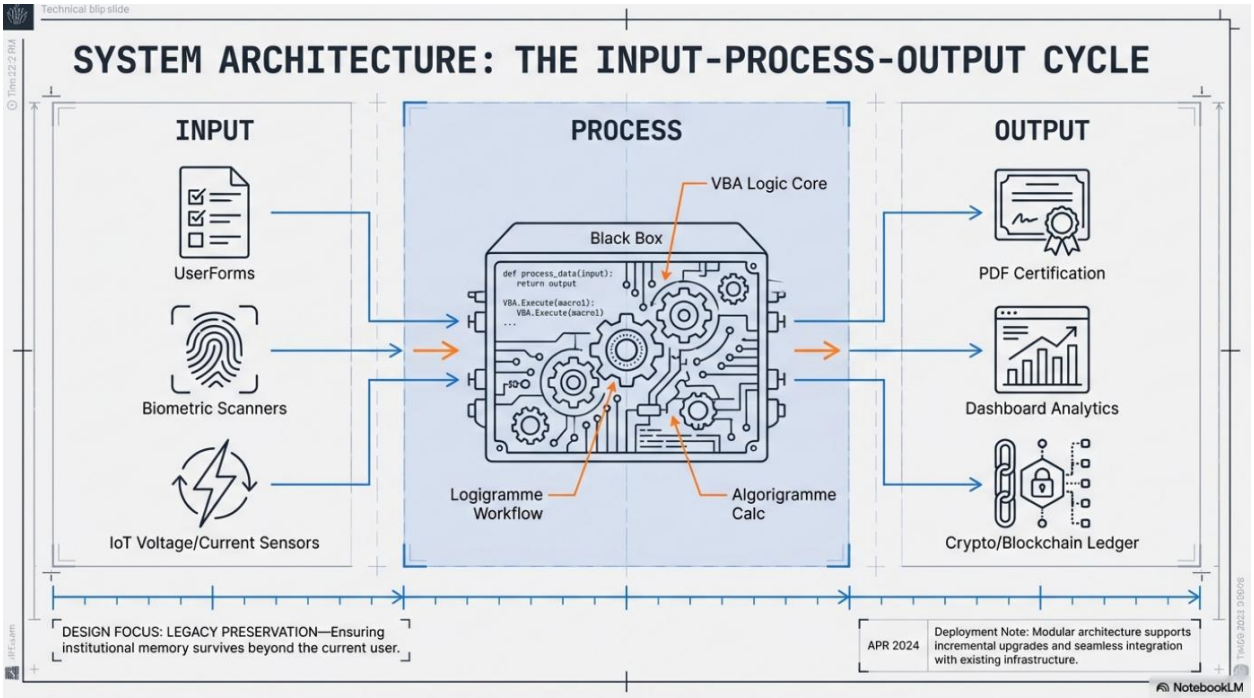
				er Project Viability		
cmdScan	Biometric Scan	biometricFlag = 1	cmdScan_Click	Information Management System (IMS) - Kfrm6	Not in source	[1]
frm dataentry	student registration form	Not in source	UserForm Interface	Automated student's registration form	Not in source	[6]
HTMLOption2	Not in source	Not in source	Click	VBA Excel Sheet Project	Not in source	[11]
HTMLText1	Not in source	Not in source	GotFocus	VBA Excel Sheet Project	Not in source	[11]
TextBox29	Not in source	Not in source	Change	UserForm 90004444 career totand and trade portfolio	Not in source	[1]
Not in source	Not in source	Not in source	Not in source	Subject Replacement / Equivalence	South African Courts / SAQA / QCTO	[1]
Not in source	Not in source	Not in source	Not in source	Integrated Water Management in Mining	Atlantic International University	[6]

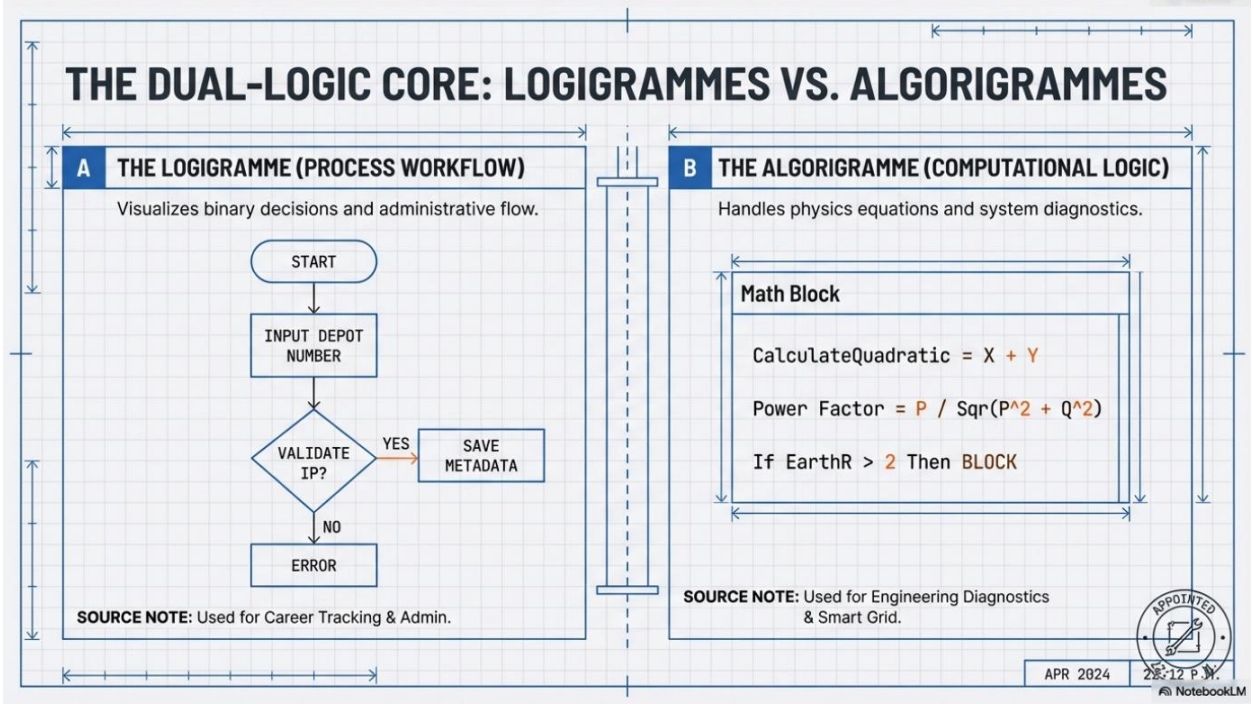
[1] UserForm 90004444 career totand and trade portoloio.frm1.pdf
[2] TRADE THEORY AND PRATICAL TOOLS LAB WORKSHOP MANUFACTURE,,, framework.pdf
[3] UserForm14 policy project excell word cae macro , tshingombe.frm2.frm1.pdf
[4] tshingombe REPUBLIC OF SOUTH AFRICA.docx
[5] UserForm total career outcom 90000333 , completed tota.frm to trade.frmt5.pdf

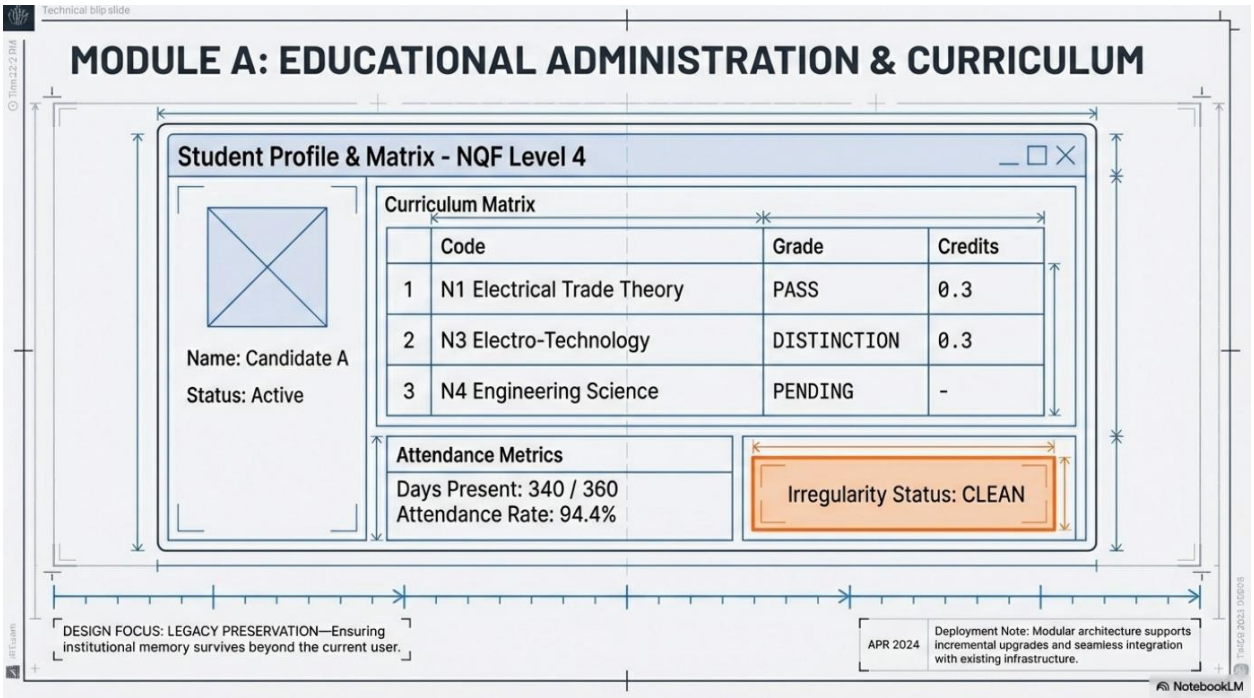
[6] Doc13 design tshing.docx
[7] TRADE THEORY AND PRATICAL TOOLS LAB WORKSHOP MANUFACTURE.pdf
[8] UserForm computer tshingombe register trade theory engineering artificial intelligent counter subject time.txt
[9] tshingombe total project article drawing aiu careerRequest an intellectual property (IP) licence _ Metropolitan Police.pdf
[10] UserForm1 5tshingombe atm.pdf

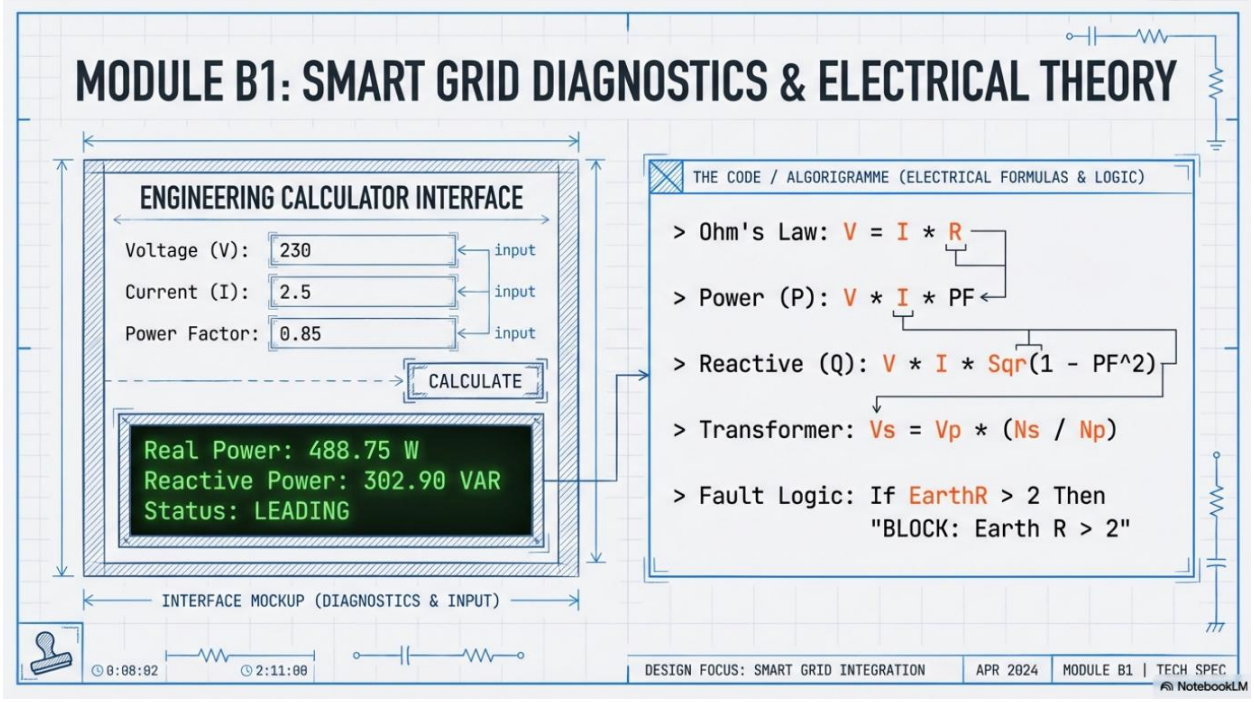

The Tshingombe Framework: An Integrated Modular Ecosystem
Bridging Vocational Engineering, Institutional Governance, and Digital Legacy
Engineering Diagnostics
Smart Grid / PLC / Telemetry
Educational Administration
SAQA / NQF / Curriculum Mapping
Legal Compliance
IP Protection / CCMA / Legacy Archive
NotebookLM

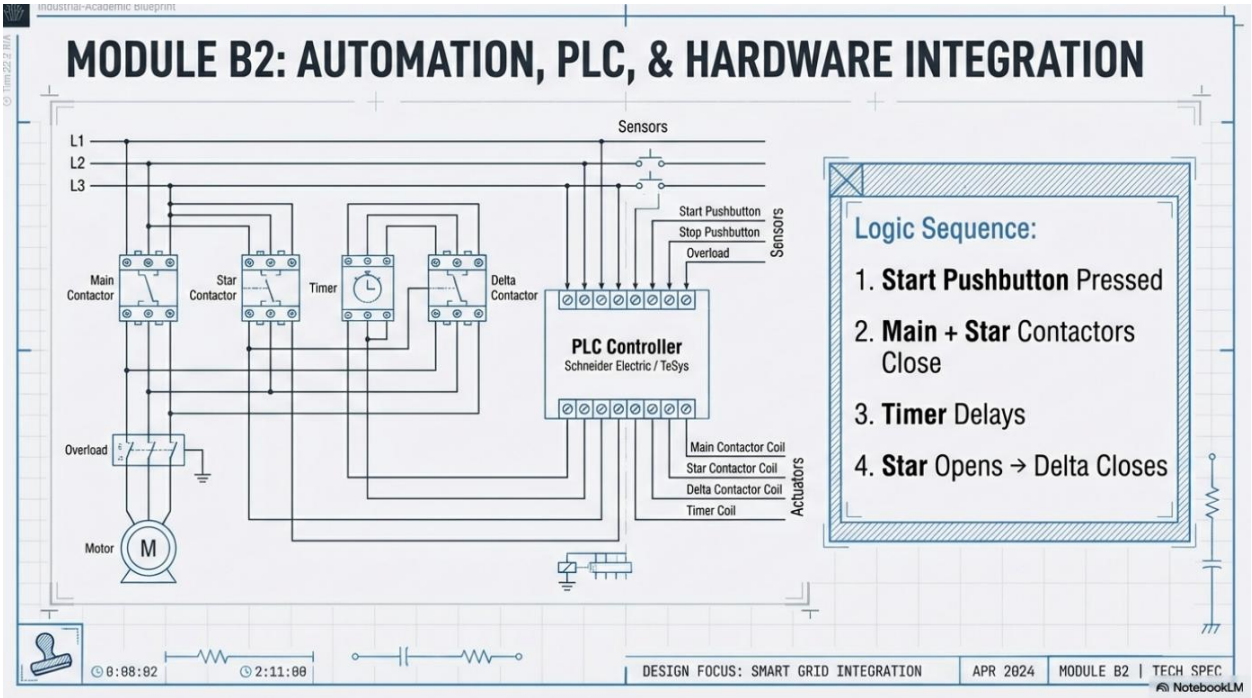

From Fragmentation to Modular Unity
Vocational Education
Curriculum Mapping (N1-N6)
Attendance Tracking
SAQA Alignment
MODULAR INTERFACE
DATA PIPELINE
Digital Hub (VBA Engine)
Engineering & Grid
Fault Analysis
PLC Logic (Schneider)
Telemetry
Governance & IP
Legal Depot Tracking
Patent Claims
Legacy Archiving
SECURE PROTOCOL
INTEGRATED SYSTEM
Career & HR
Employment Wallets
Skills Matrix
Labor Outcome Tracking
Deployment Note: Bilingual capabilities (English/French) for cross-border institutional deployment.
NotebookLM

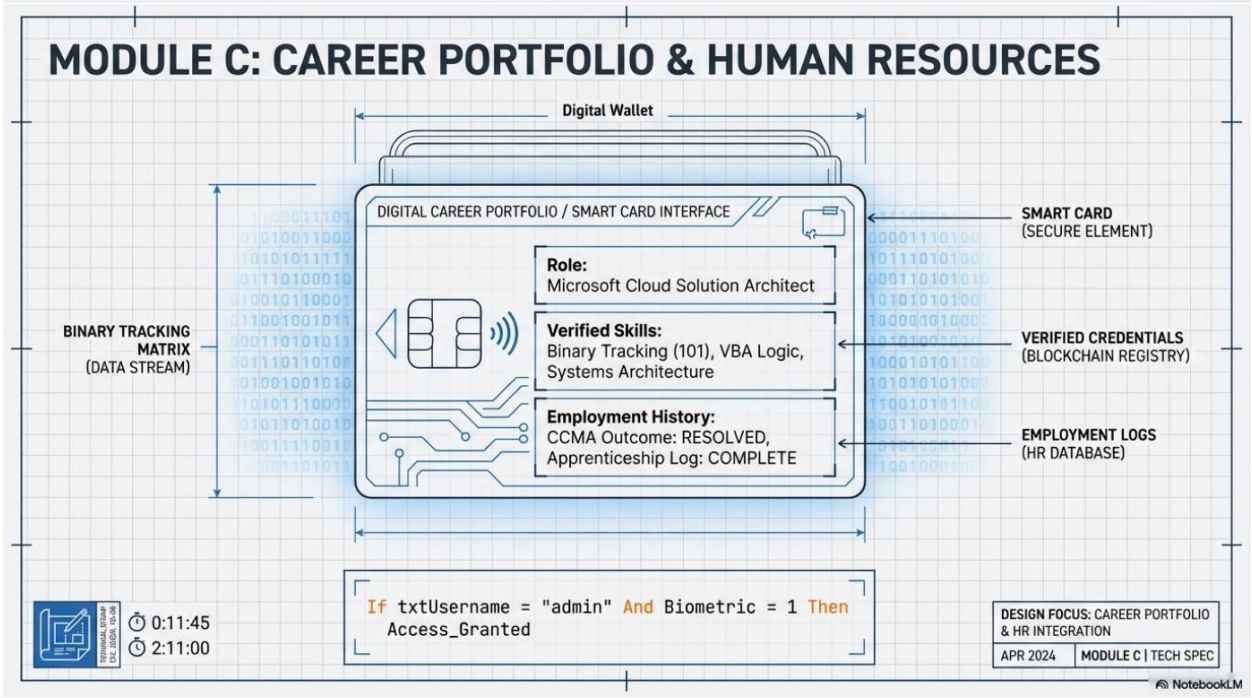

Technical blip slide
SYSTEM ARCHITECTURE: THE INPUT-PROCESS-OUTPUT CYCLE
INPUT
PROCESS
OUTPUT
UserForms
Biometric Scanners
IoT Voltage/Current Sensors
VBA Logic Core
Black Box
Logigramme Workflow
Algorigramme Calc
PDF Certification
Dashboard Analytics
Crypto/Blockchain Ledger
DESIGN FOCUS: LEGACY PRESERVATION—Ensuring institutional memory survives beyond the current user.
APR 2024
Deployment Note: Modular architecture supports incremental upgrades and seamless integration with existing infrastructure.
NotebookLM


THE DUAL-LOGIC CORE: LOGIGRAMMES VS. ALGORIGRAMMES
A THE LOGIGRAMME (PROCESS WORKFLOW)
Visualizes binary decisions and administrative flow.
START
INPUT DEPOT NUMBER
VALIDATE IP?
YES
SAVE METADATA
NO
ERROR
SOURCE NOTE: Used for Career Tracking & Admin.
B THE ALGORIGRAMME (COMPUTATIONAL LOGIC)
Handles physics equations and system diagnostics.
Math Block
CalculateQuadratic = X + Y
Power Factor = P / Sqr(P^2 + Q^2)
If EarthR > 2 Then BLOCK
SOURCE NOTE: Used for Engineering Diagnostics & Smart Grid.
APPOINTED
APR 2024
NotebookLM

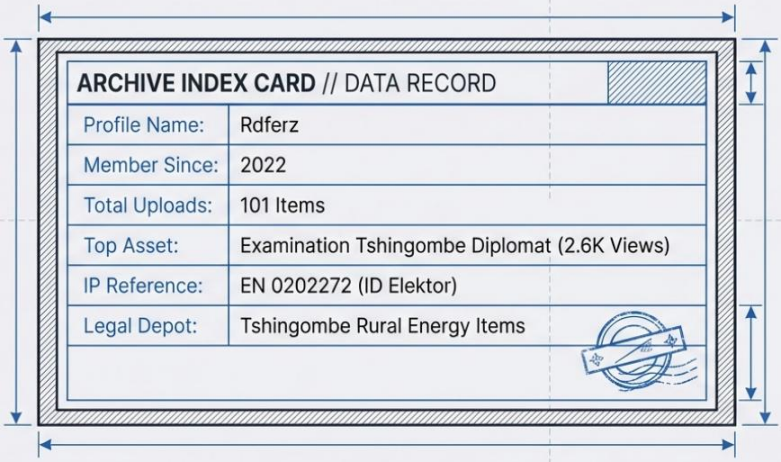

MODULE A: EDUCATIONAL ADMINISTRATION & CURRICULUM
Student Profile & Matrix - NQF Level 4
Name: Candidate A
Status: Active
Curriculum Matrix
Code
Grade
Credits
1
N1 Electrical Trade Theory
PASS
0.3
2
N3 Electro-Technology
DISTINCTION
0.3
3
N4 Engineering Science
PENDING
-
Attendance Metrics
Days Present: 340 / 360
Attendance Rate: 94.4%
Irregularity Status: CLEAN
DESIGN FOCUS: LEGACY PRESERVATION—Ensuring institutional memory survives beyond the current user.
APR 2024
Deployment Note: Modular architecture supports incremental upgrades and seamless integration with existing infrastructure.
NotebookLM


MODULE B1: SMART GRID DIAGNOSTICS & ELECTRICAL THEORY
ENGINEERING CALCULATOR INTERFACE
Voltage (V): 230
Current (I): 2.5
Power Factor: 0.85
input
input
input
CALCULATE
Real Power: 488.75 W
Reactive Power: 302.90 VAR
Status: LEADING
INTERFACE MOCKUP (DIAGNOSTICS & INPUT)
THE CODE / ALGORIGRAMME (ELECTRICAL FORMULAS & LOGIC)
> Ohm's Law: V = I * R
> Power (P): V * I * PF
> Reactive (Q): V * I * Sqr(1 - PF^2)
> Transformer: Vs = Vp * (Ns / Np)
> Fault Logic: If EarthR > 2 Then "BLOCK: Earth R > 2"
DESIGN FOCUS: SMART GRID INTEGRATION
APR 2024
MODULE B1 | TECH SPEC
NotebookLM


MODULE B2: AUTOMATION, PLC, & HARDWARE INTEGRATION
L1
L2
L3
Sensors
Start Pushbutton
Stop Pushbutton
Overload
Sensors
Main Contactor
Star Contactor
Timer
Delta Contactor
PLC Controller
Schneider Electric / TeSys
Overload
Motor
M
Main Contactor Coil
Star Contactor Coil
Delta Contactor Coil
Timer Coil
Actuators
Logic Sequence:
1. Start Pushbutton Pressed
2. Main + Star Contactors Close
3. Timer Delays
4. Star Opens → Delta Closes
0:08:02
2:11:00
DESIGN FOCUS: SMART GRID INTEGRATION
APR 2024
MODULE B2 | TECH SPEC
NotebookLM


MODULE C: CAREER PORTFOLIO & HUMAN RESOURCES
Digital Wallet
DIGITAL CAREER PORTFOLIO / SMART CARD INTERFACE
Role:
Microsoft Cloud Solution Architect
Verified Skills:
Binary Tracking (101), VBA Logic, Systems Architecture
Employment History:
CCMA Outcome: RESOLVED, Apprenticeship Log: COMPLETE
BINARY TRACKING MATRIX
(DATA STREAM)
SMART CARD
(SECURE ELEMENT)
VERIFIED CREDENTIALS
(BLOCKCHAIN REGISTRY)
EMPLOYMENT LOGS
(HR DATABASE)
If txtUsername = "admin" And Biometric = 1 Then
Access_Granted
0:11:45
2:11:00
DESIGN FOCUS: CAREER PORTFOLIO & HR INTEGRATION
APR 2024
MODULE C | TECH SPEC
NotebookLM

MODULE D: INTELLECTUAL PROPERTY & LEGACY ARCHIVING


ARCHIVE INDEX CARD // DATA RECORD
Profile Name: Rdferz
Member Since: 2022
Total Uploads: 101 Items
Top Asset: Examination Tshingombe Diplomat (2.6K Views)
IP Reference: EN 0202272 (ID Elektor)
Legal Depot: Tshingombe Rural Energy Items

0:22:30
2:11:00

DESIGN FOCUS: INTELLECTUAL PROPERTY & LEGACY ARCHIVING | APR 2024 | MODULE D | TECH SPEC

NotebookLM

THE TECHNICAL ENGINE: VBA & EVENT LOGIC

```
' Kfrm1: Initial Registration & Validation
Private Sub cmdNext_Click()
    If txtName.Text = "" Or txtID.Text = "" Then
        MsgBox "Please complete all fields.", vbExclamation
    Else
        ' Transition to Address Form
        Kfrm2.Show
        Me.Hide
    End If
End Sub

' Financial Logic: Discount Calculation
Private Sub cmdCalculate_Click()
    subtotal = qty * price
    total = subtotal * (1 - discountRate / 100)
    txtTotal.Text = Format(total, "Currency")
End Sub
```

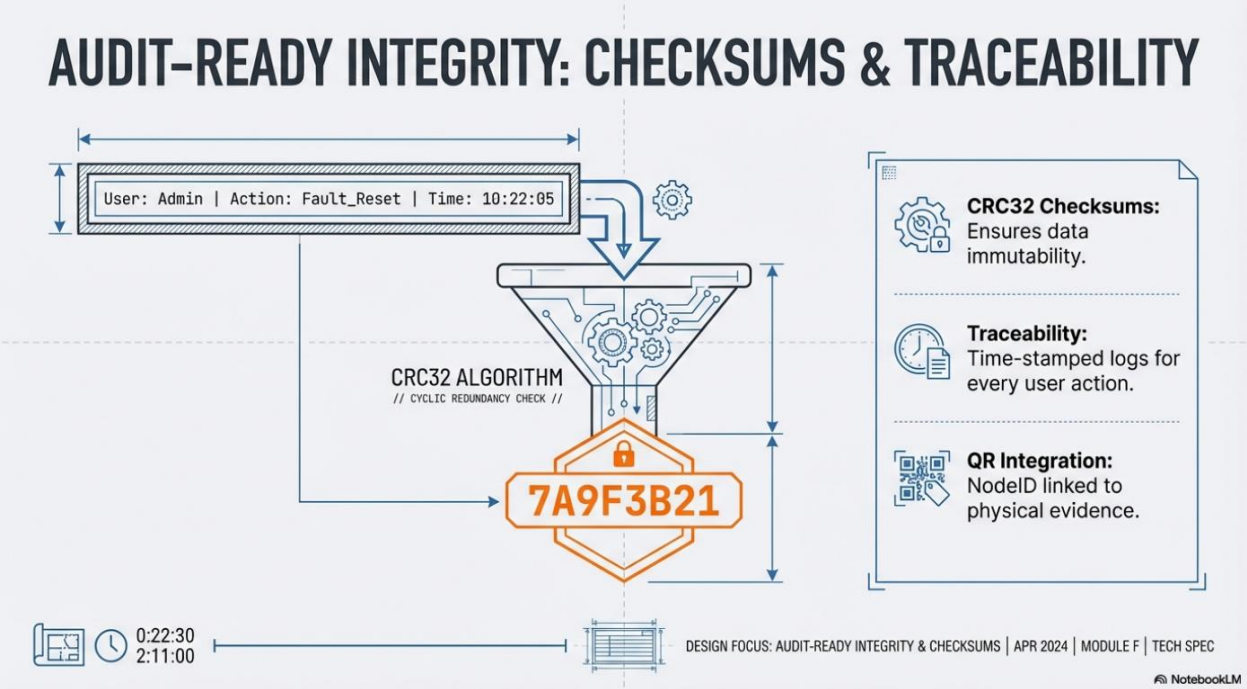
Modular Code Structure: Validation, Calculation, Navigation.

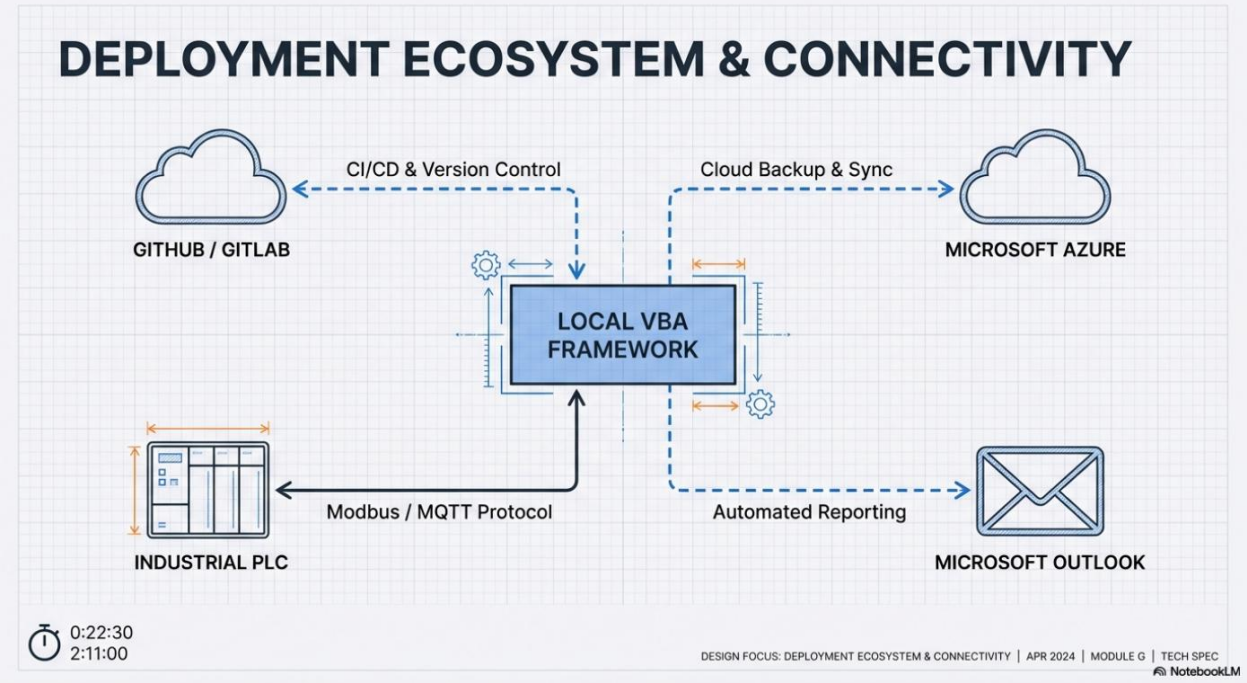
CODE EDITOR WINDOW // VBA SCRIPTING INTERFACE

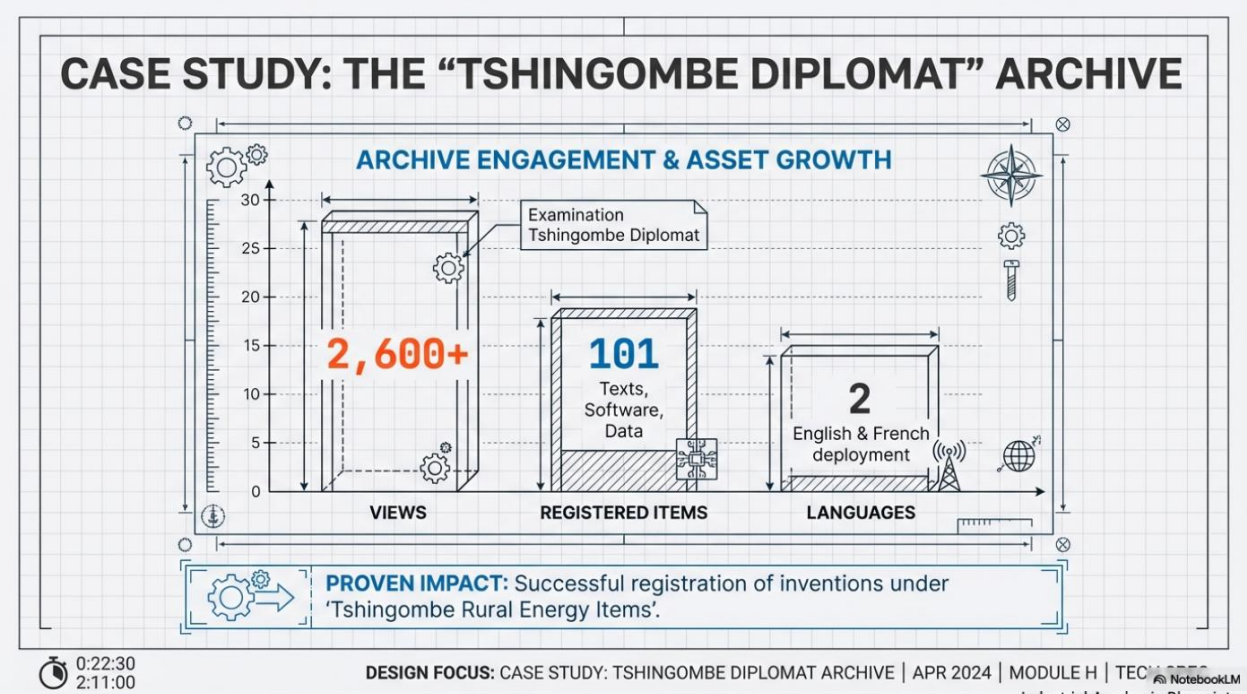
0:22:30
2:11:00

DESIGN FOCUS: VBA & EVENT LOGIC | APR 2024 | MODULE E | TECH SPEC

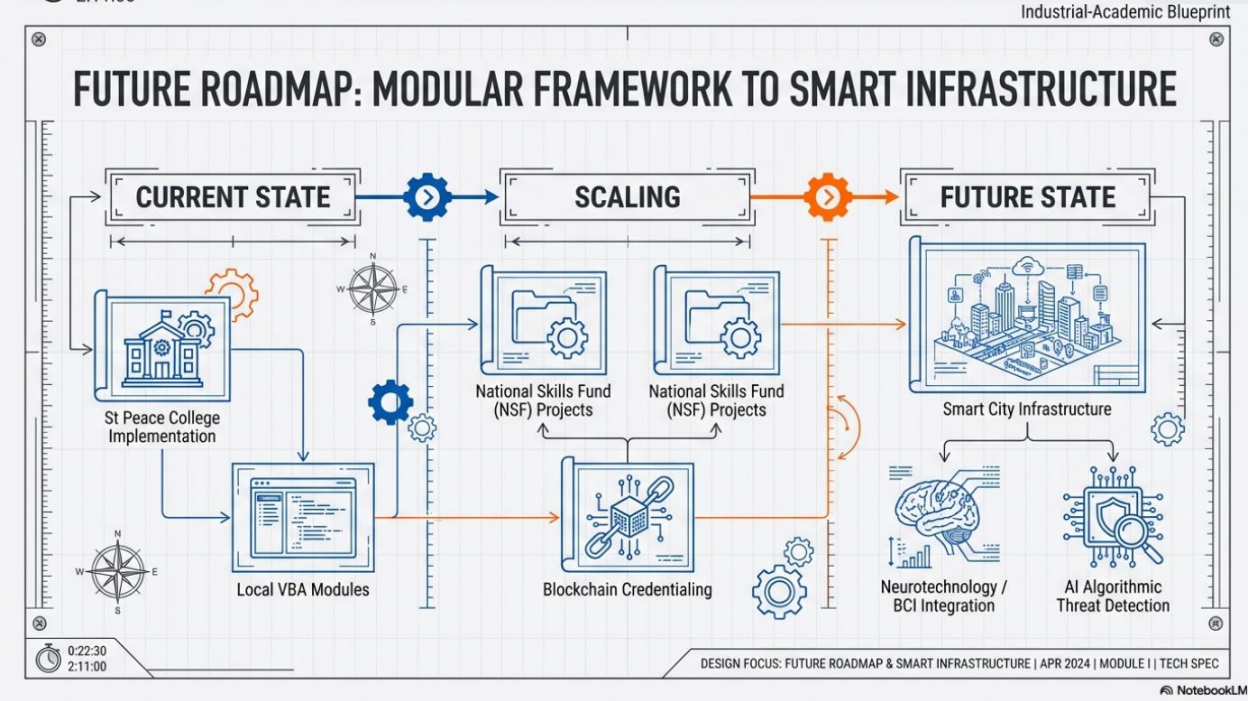
NotebookLM

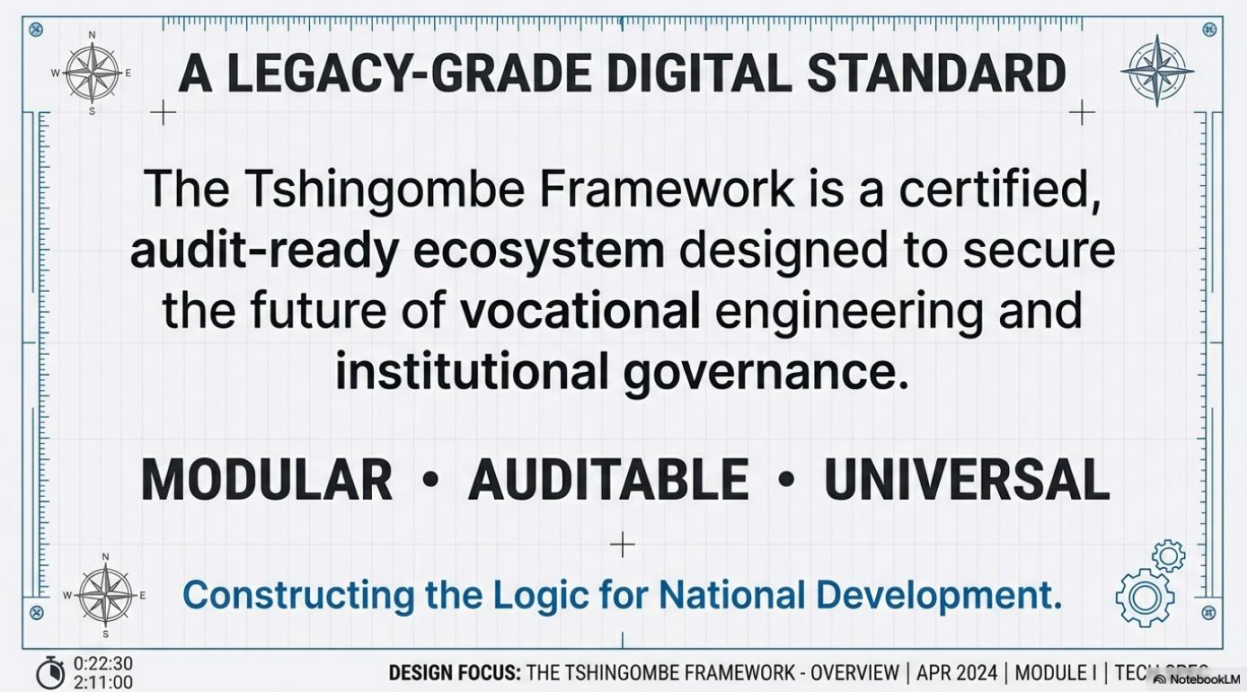

AUDIT-READY INTEGRITY: CHECKSUMS & TRACEABILITY
User: Admin | Action: Fault_Reset | Time: 10:22:05
CRC32 ALGORITHM
// CYCLIC REDUNDANCY CHECK //
7A9F3B21
CRC32 Checksums:
Ensures data immutability.
Traceability:
Time-stamped logs for every user action.
QR Integration:
NodeID linked to physical evidence.
0:22:30
2:11:00
DESIGN FOCUS: AUDIT-READY INTEGRITY & CHECKSUMS | APR 2024 | MODULE F | TECH SPEC
NotebookLM


DEPLOYMENT ECOSYSTEM & CONNECTIVITY
CI/CD & Version Control
Cloud Backup & Sync
GITHUB / GITLAB
MICROSOFT AZURE
LOCAL VBA FRAMEWORK
Modbus / MQTT Protocol
Automated Reporting
INDUSTRIAL PLC
MICROSOFT OUTLOOK
0:22:30
2:11:00
DESIGN FOCUS: DEPLOYMENT ECOSYSTEM & CONNECTIVITY | APR 2024 | MODULE G | TECH SPEC
NotebookLM

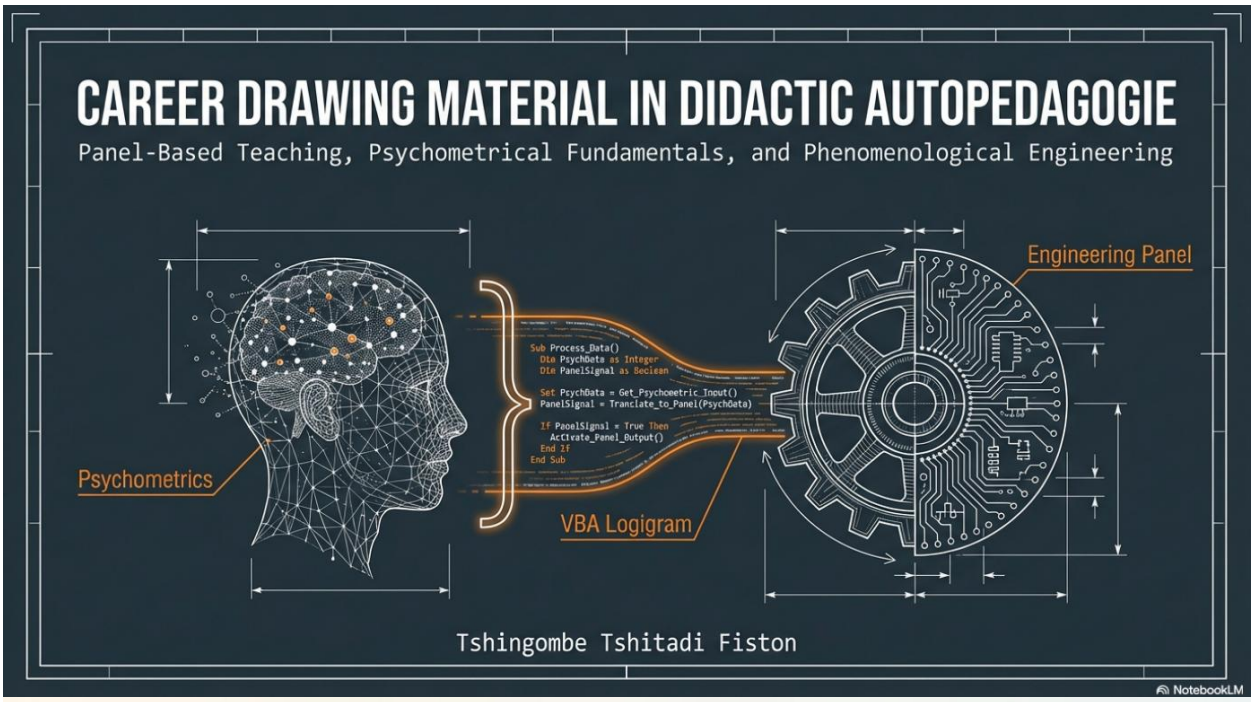


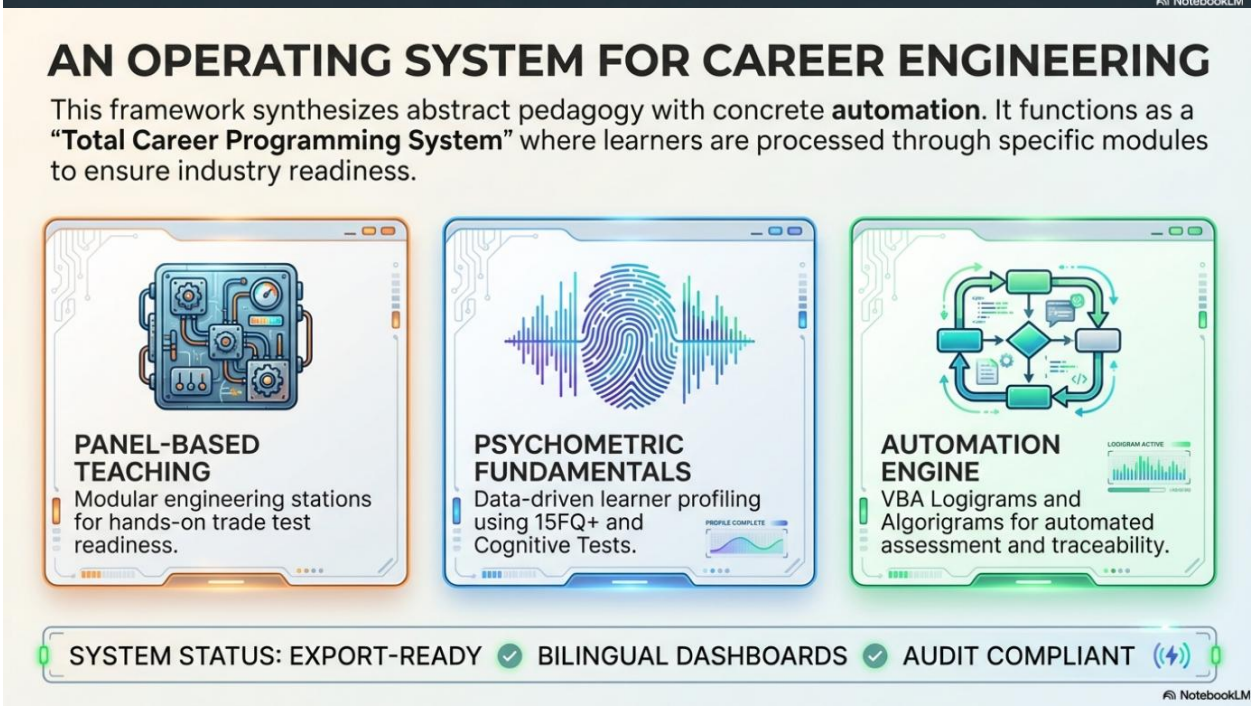
Industrial-Academic Blueprint

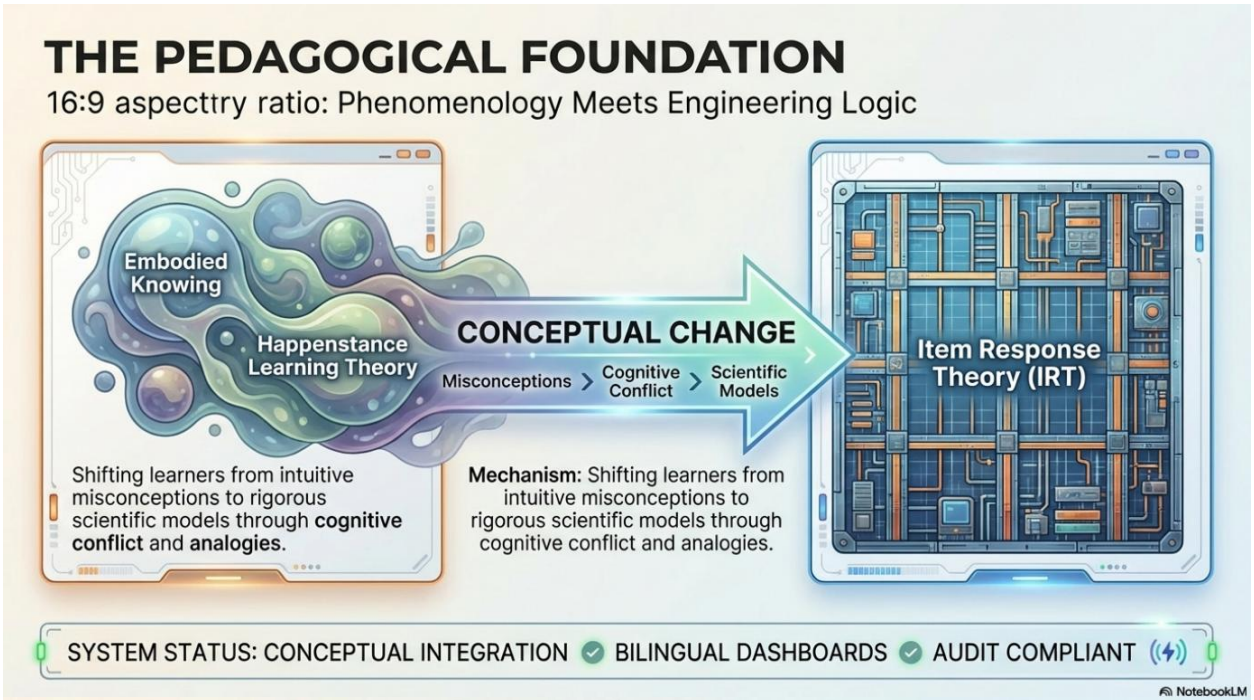


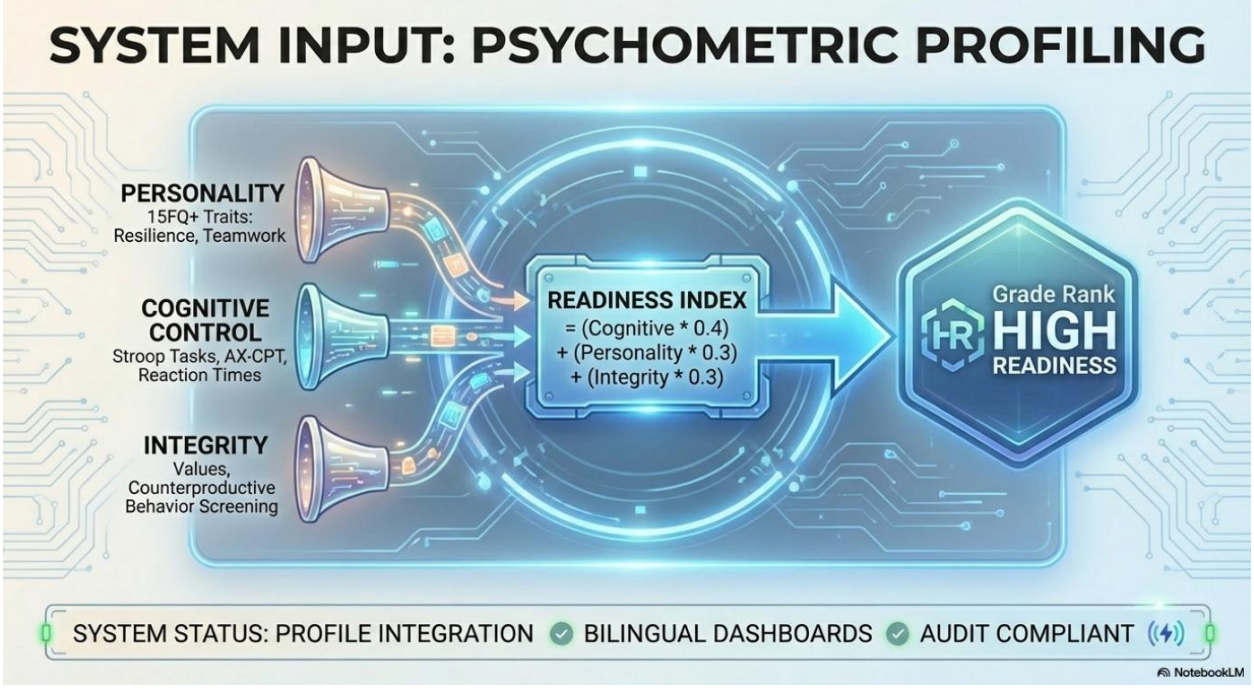

A LEGACY-GRADE DIGITAL STANDARD
The Tshingombe Framework is a certified, audit-ready ecosystem designed to secure the future of vocational engineering and institutional governance.
MODULAR • AUDITABLE • UNIVERSAL
Constructing the Logic for National Development.
0:22:30
2:11:00
DESIGN FOCUS: THE TSHINGOMBE FRAMEWORK - OVERVIEW | APR 2024 | MODULE I | TECH SPEC
NotebookLM

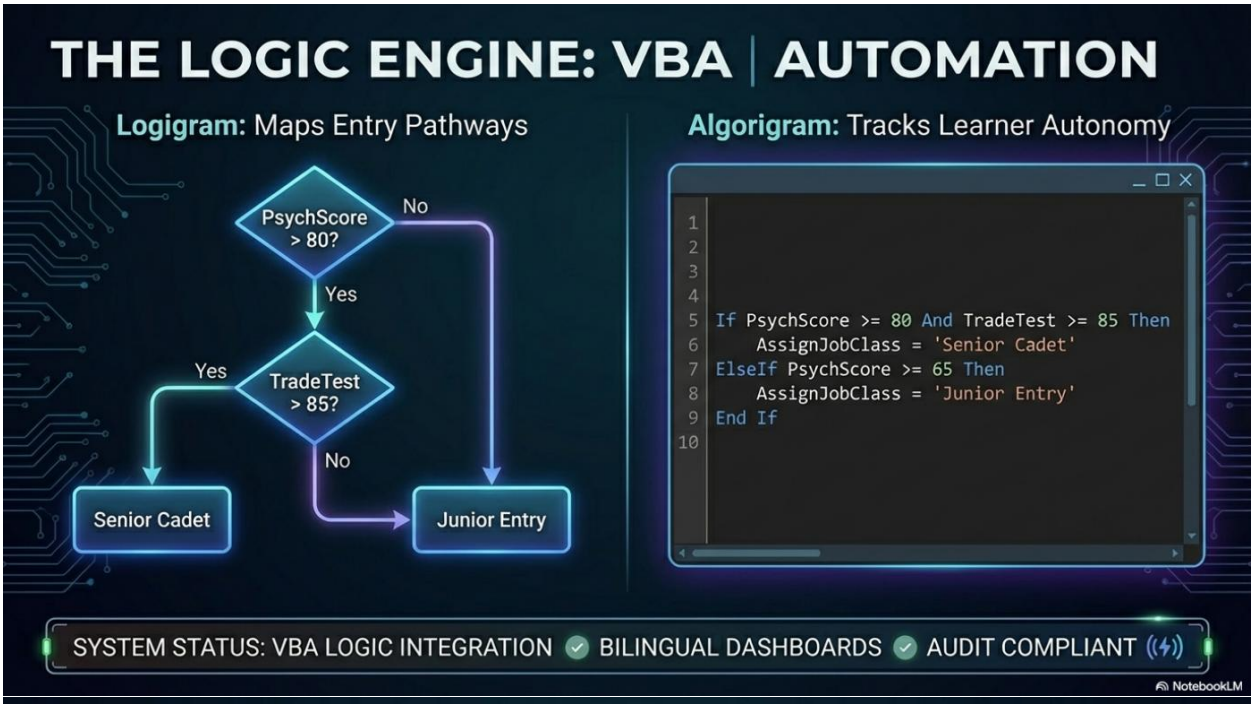
Architecting Your Professional Legacy:
A Modular System for Career & IP Management
KEY APPLICATIONS:
INTELLECTUAL PROPERTY (IP) & ARCHIVING
PATENT
Intellectual Property (IP) & Archiving
Manages legal depot numbers, patent claims, and financial booking for inventions.
THE CORE ENGINE: LOGIC & AUTOMATION
SAVE
VISUAL BASIC (VBA) FOR DATA CAPTURE
Custom forms automate data entry for projects, IP claims, and career milestones.
LOGIGRAMMES VISUALIZE WORKFLOWS
Flowcharts map key processes like IP validation, project approvals, and career tracking.
IF
THEN
Algorigrammes Define Decision Logic
Rule-based logic automates compliance checks, calculations, and system validation steps.
KEY APPLICATIONS:
CAREER & PROJECT TRACKING
Career & Project Tracking
Logs milestones, validates credentials, and syncs with platforms like GitHub and Azure.
Audit-Ready Documentation
Aligns technical work with national qualification standards like BAQA, QCTO, and NSQF.
Examination Tshingombe Diplomat 2,600 Views
St Peace College 1,700 Views
NOTICE COMPAGNY 1,2,3,4 LEVEL 755 Views
NotebookLM

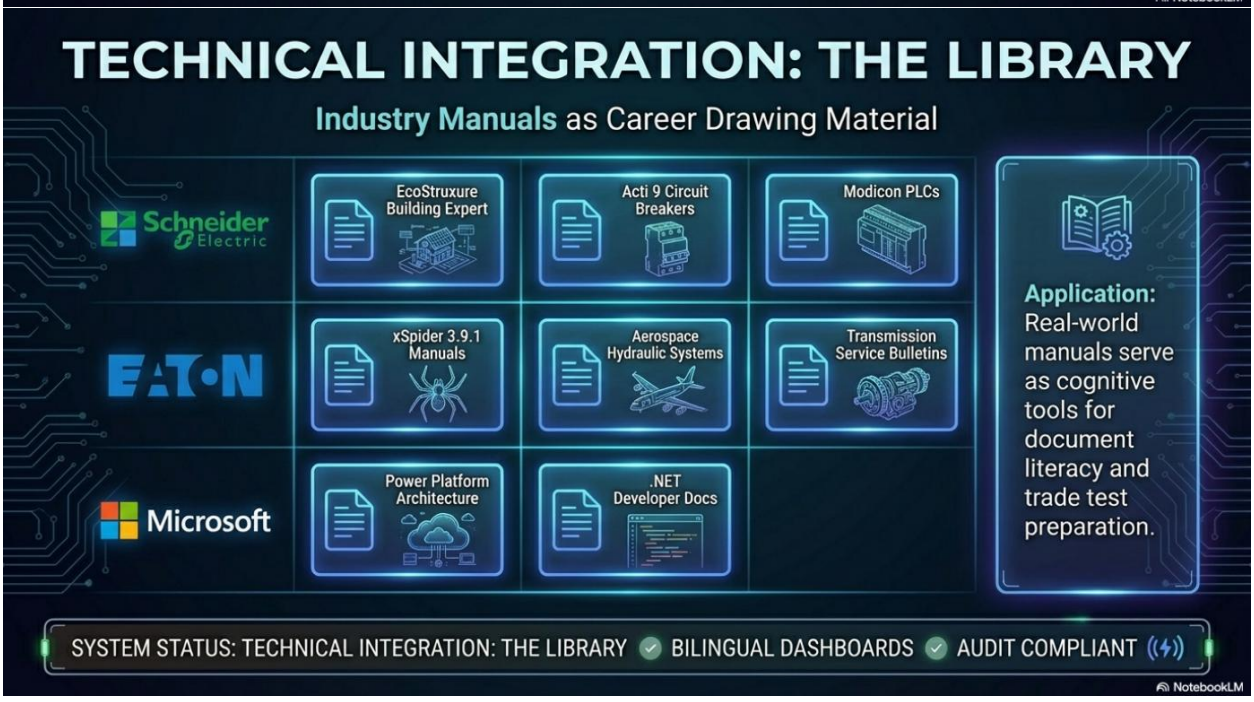

CAREER DRAWING MATERIAL IN DIDACTIC AUTOPEDAGOGIE
Panel-Based Teaching, Psychometrical Fundamentals, and Phenomenological Engineering
Engineering Panel
Psychometrics
VBA Logigram
Tshingombe Tshitadi Fiston
NotebookLM

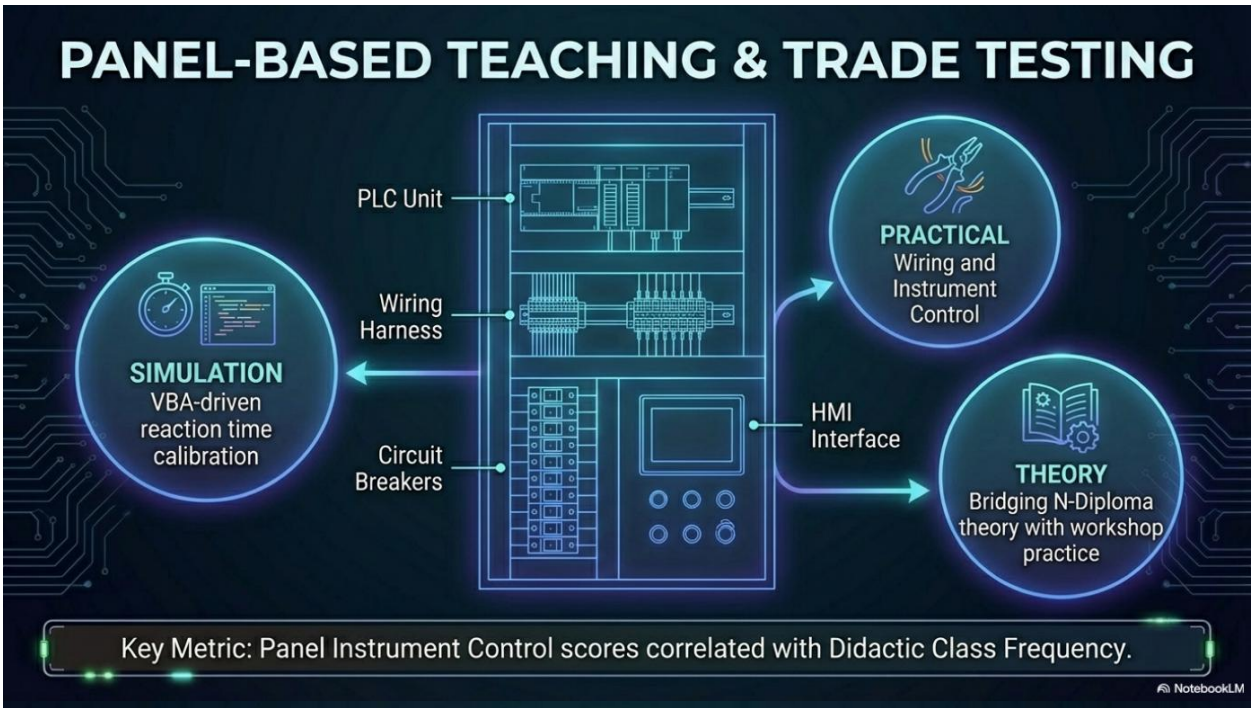

AN OPERATING SYSTEM FOR CAREER ENGINEERING
This framework synthesizes abstract pedagogy with concrete automation. It functions as a "Total Career Programming System" where learners are processed through specific modules to ensure industry readiness.
PANEL-BASED TEACHING
Modular engineering stations for hands-on trade test readiness.
PSYCHOMETRIC FUNDAMENTALS
Data-driven learner profiling using 15FQ+ and Cognitive Tests.
AUTOMATION ENGINE
VBA Logigrams and Algorigrams for automated assessment and traceability.
SYSTEM STATUS: EXPORT-READY
BILINGUAL DASHBOARDS
AUDIT COMPLIANT
NotebookLM

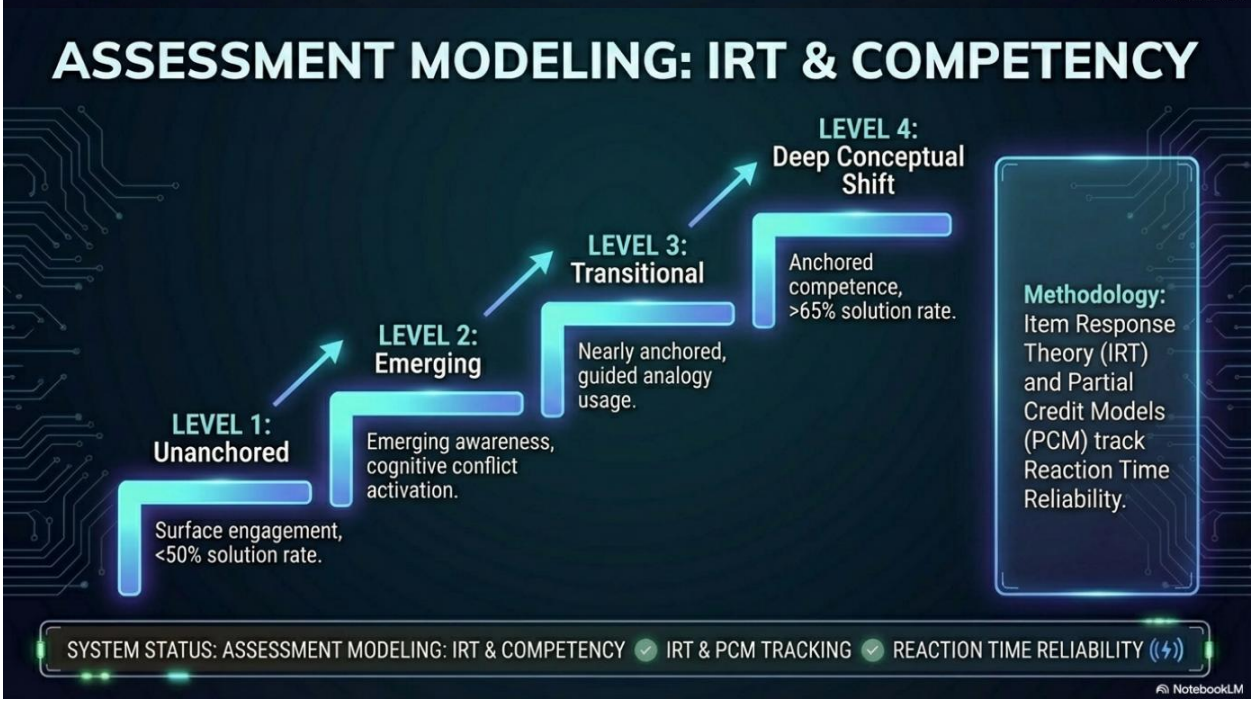

THE PEDAGOGICAL FOUNDATION
16:9 aspecttry ratio: Phenomenology Meets Engineering Logic
Embodied Knowing
Happenstance Learning Theory
CONCEPTUAL CHANGE
Misconceptions
Cognitive Conflict
Scientific Models
Item Response Theory (IRT)
Shifting learners from intuitive misconceptions to rigorous scientific models through cognitive conflict and analogies.
Mechanism: Shifting learners from intuitive misconceptions to rigorous scientific models through cognitive conflict and analogies.
SYSTEM STATUS: CONCEPTUAL INTEGRATION
BILINGUAL DASHBOARDS
AUDIT COMPLIANT
NotebookLM

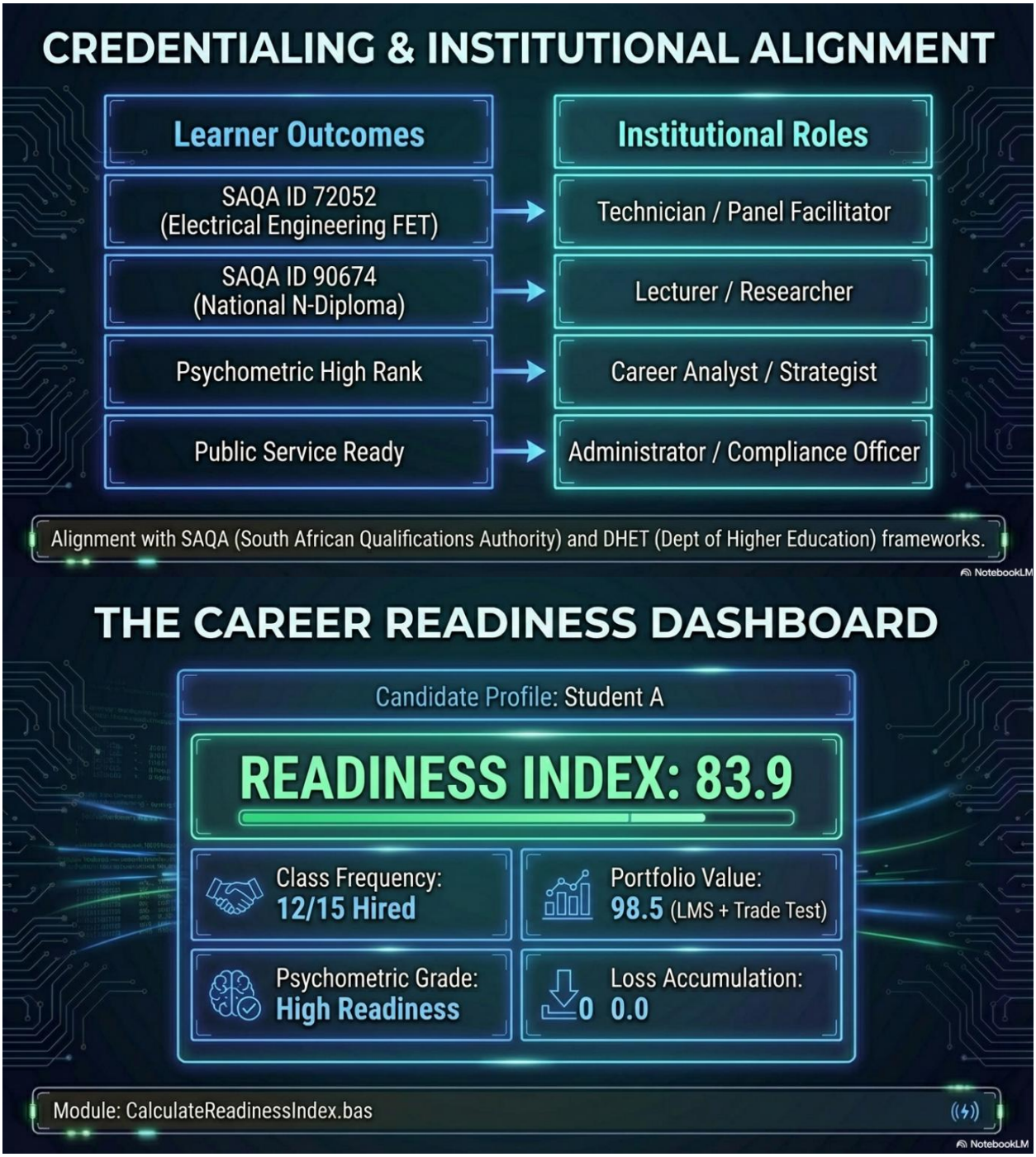

SYSTEM INPUT: PSYCHOMETRIC PROFILING
PERSONALITY
15FQ+ Traits: Resilience, Teamwork
COGNITIVE CONTROL
Stroop Tasks, AX-CPT, Reaction Times
INTEGRITY
Values, Counterproductive Behavior Screening
READINESS INDEX
= (Cognitive * 0.4)
+ (Personality * 0.3)
+ (Integrity * 0.3)
Grade Rank
HIGH
READINESS
SYSTEM STATUS: PROFILE INTEGRATION
BILINGUAL DASHBOARDS
AUDIT COMPLIANT
NotebookLM

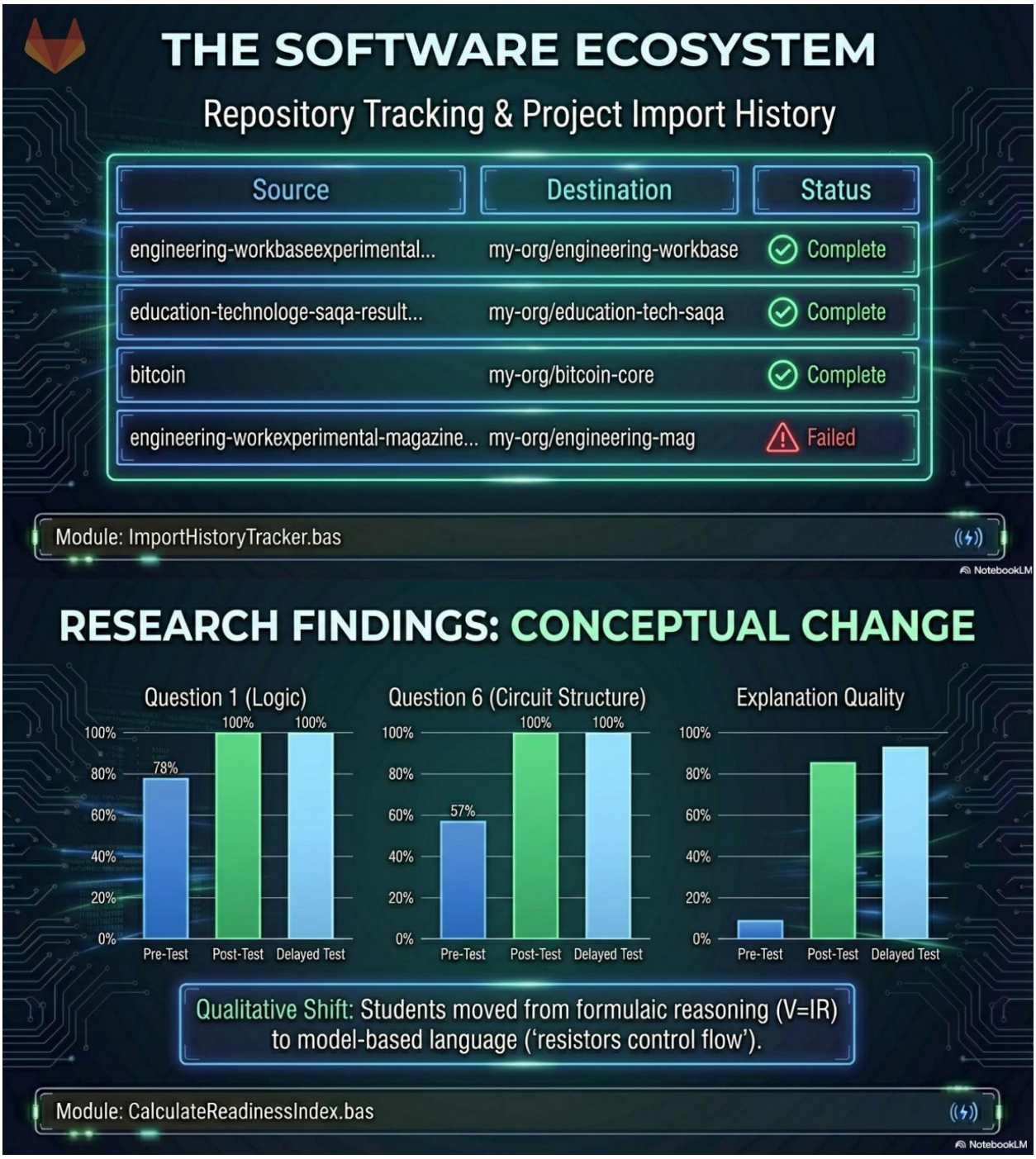

THE LOGIC ENGINE: VBA | AUTOMATION
Logigram: Maps Entry Pathways
PsychScore > 80?
No
Yes
TradeTest > 85?
Yes
No
Senior Cadet
Junior Entry
Algorigram: Tracks Learner Autonomy
If PsychScore >= 80 And TradeTest >= 85 Then
AssignJobClass = 'Senior Cadet'
ElseIf PsychScore >= 65 Then
AssignJobClass = 'Junior Entry'
End If
SYSTEM STATUS: VBA LOGIC INTEGRATION
BILINGUAL DASHBOARDS
AUDIT COMPLIANT
NotebookLM

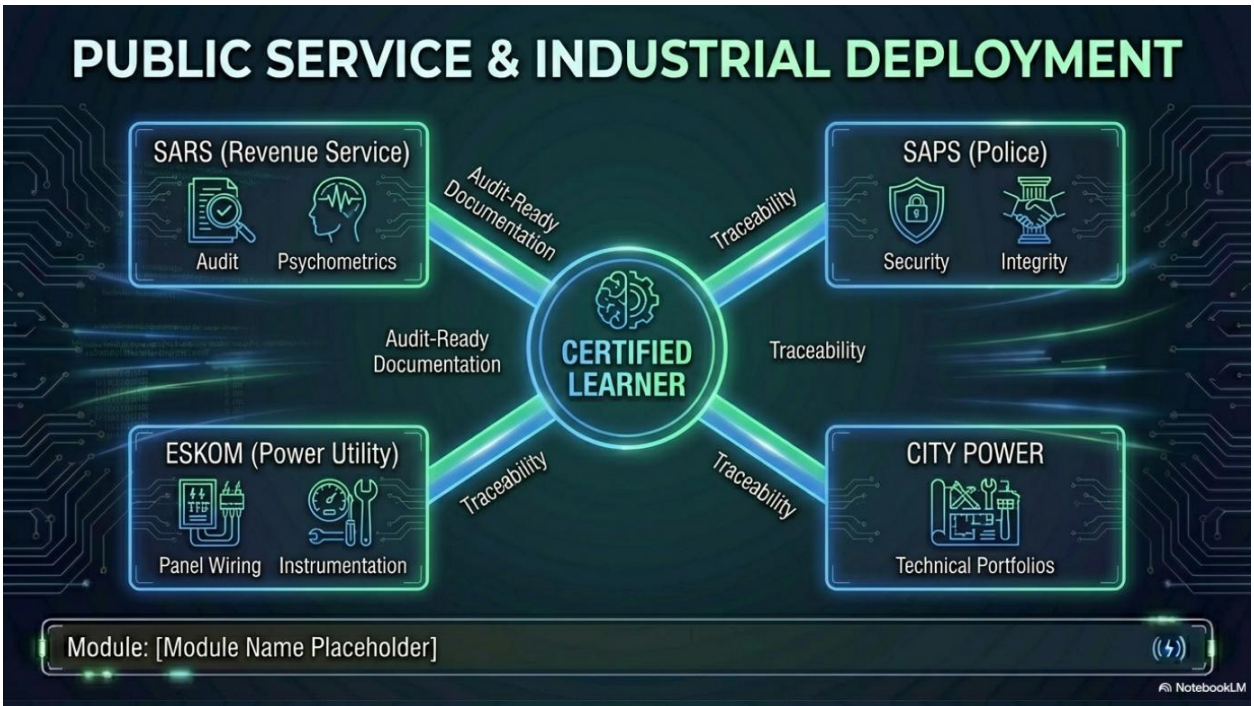

TECHNICAL INTEGRATION: THE LIBRARY
Industry Manuals as Career Drawing Material
Schneider Electric
EcoStruxure Building Expert
Acti 9 Circuit Breakers
Modicon PLCs
EATON
xSpider 3.9.1 Manuals
Aerospace Hydraulic Systems
Transmission Service Bulletins
Microsoft
Power Platform Architecture
.NET Developer Docs
Application: Real-world manuals serve as cognitive tools for document literacy and trade test preparation.
SYSTEM STATUS: TECHNICAL INTEGRATION: THE LIBRARY
BILINGUAL DASHBOARDS
AUDIT COMPLIANT
NotebookLM

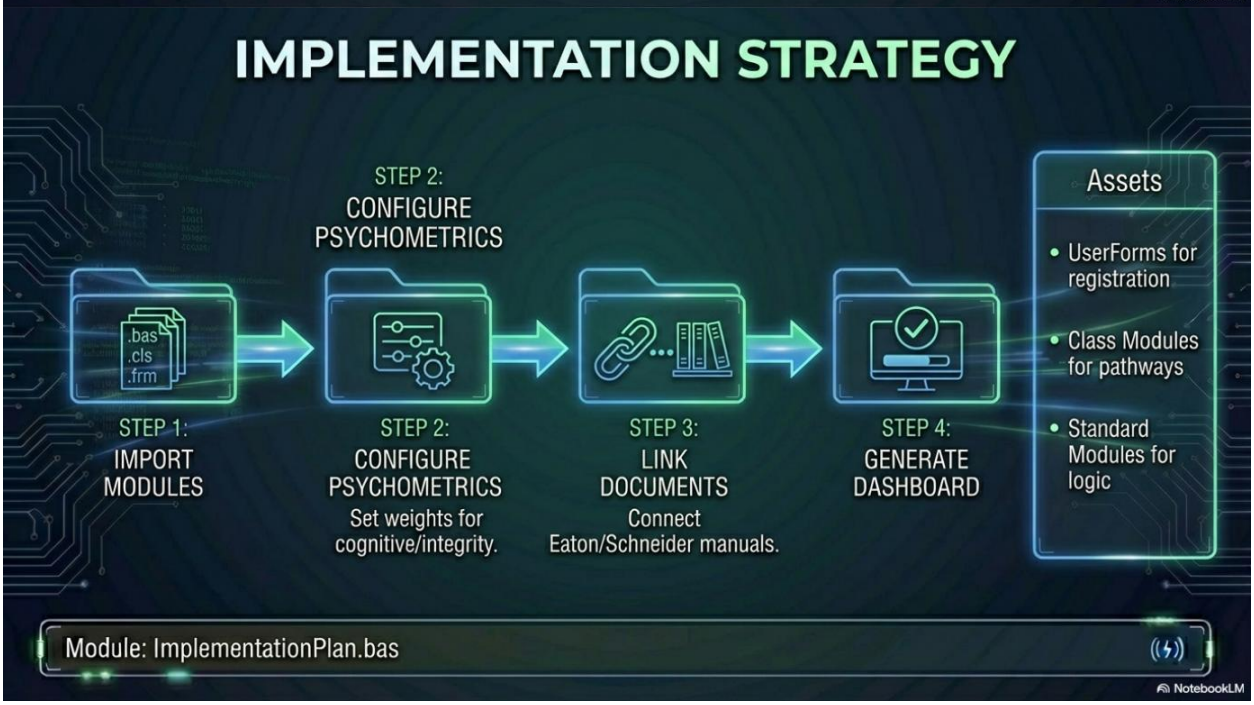

PANEL-BASED TEACHING & TRADE TESTING
PLC Unit
Wiring Harness
Circuit Breakers
HMI Interface
SIMULATION
VBA-driven reaction time calibration
PRACTICAL
Wiring and Instrument Control
THEORY
Bridging N-Diploma theory with workshop practice
Key Metric: Panel Instrument Control scores correlated with Didactic Class Frequency.
NotebookLM

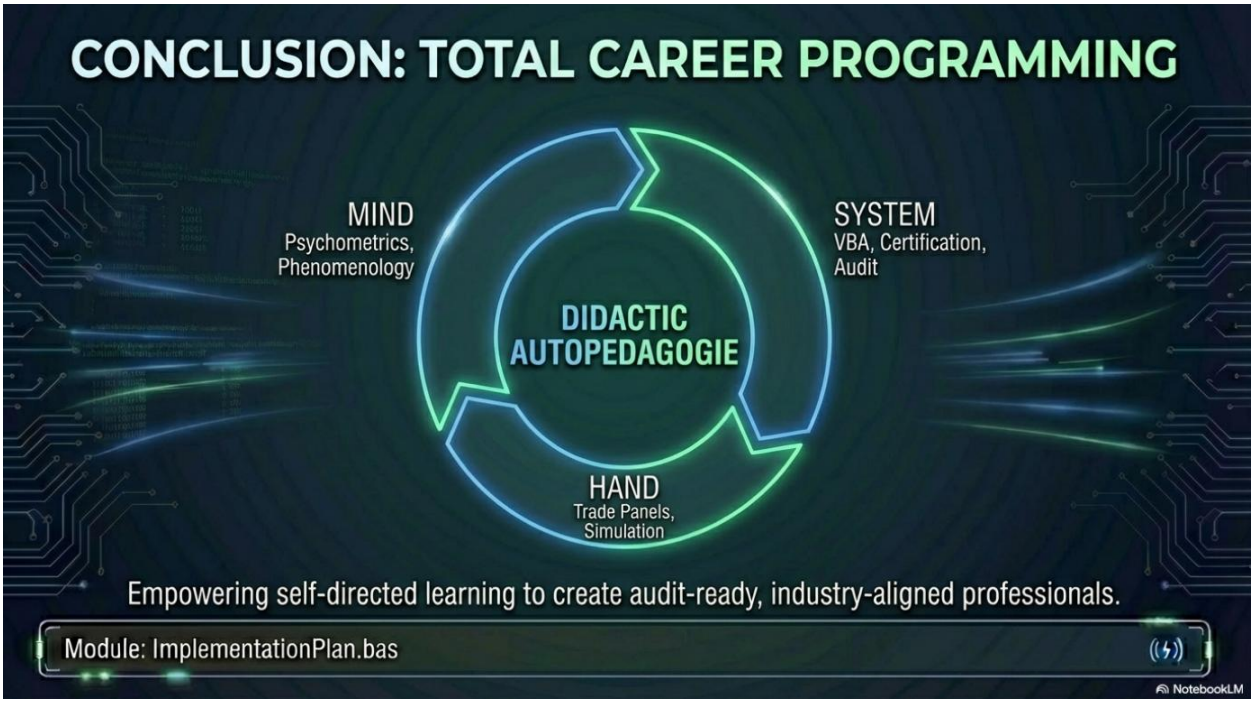

ASSESSMENT MODELING: IRT & COMPETENCY
LEVEL 1: Unanchored
Surface engagement, <50% solution rate.
LEVEL 2: Emerging
Emerging awareness, cognitive conflict activation.
LEVEL 3: Transitional
Nearly anchored, guided analogy usage.
LEVEL 4: Deep Conceptual Shift
Anchored competence, >65% solution rate.
Methodology: Item Response Theory (IRT) and Partial Credit Models (PCM) track Reaction Time Reliability.
SYSTEM STATUS: ASSESSMENT MODELING: IRT & COMPETENCY
IRT & PCM TRACKING
REACTION TIME RELIABILITY
NotebookLM

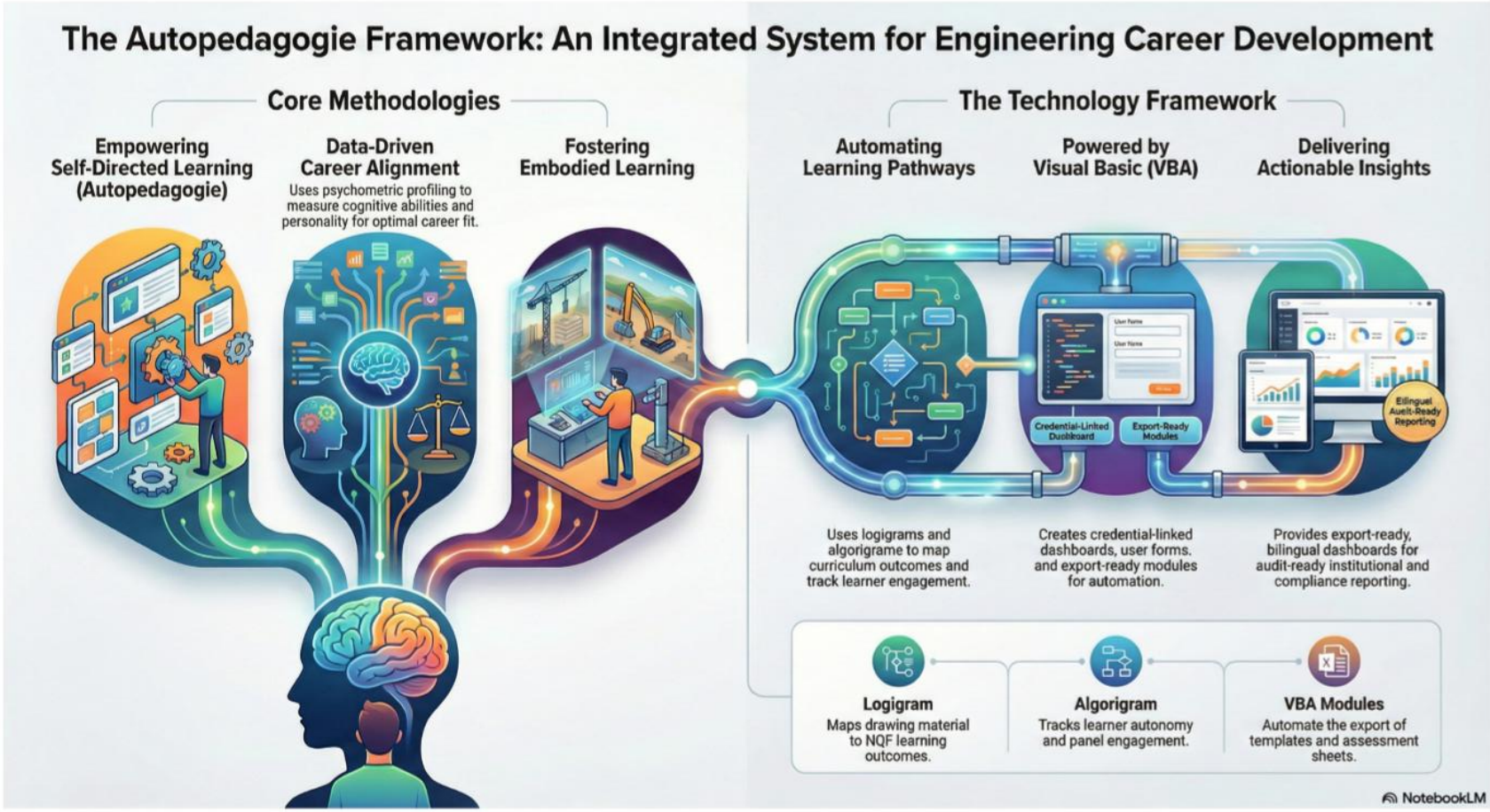

CREDENTIALING & INSTITUTIONAL ALIGNMENT
Learner Outcomes
Institutional Roles
SAQA ID 72052 (Electrical Engineering FET)
Technician / Panel Facilitator
SAQA ID 90674 (National N-Diploma)
Lecturer / Researcher
Psychometric High Rank
Career Analyst / Strategist
Public Service Ready
Administrator / Compliance Officer
Alignment with SAQA (South African Qualifications Authority) and DHET (Dept of Higher Education) frameworks.
NotebookLM
THE CAREER READINESS DASHBOARD
Candidate Profile: Student A
READINESS INDEX: 83.9
Class Frequency: 12/15 Hired
Portfolio Value: 98.5 (LMS + Trade Test)
Psychometric Grade: High Readiness
Loss Accumulation: 0.0
Module: CalculateReadinessIndex.bas
NotebookLM

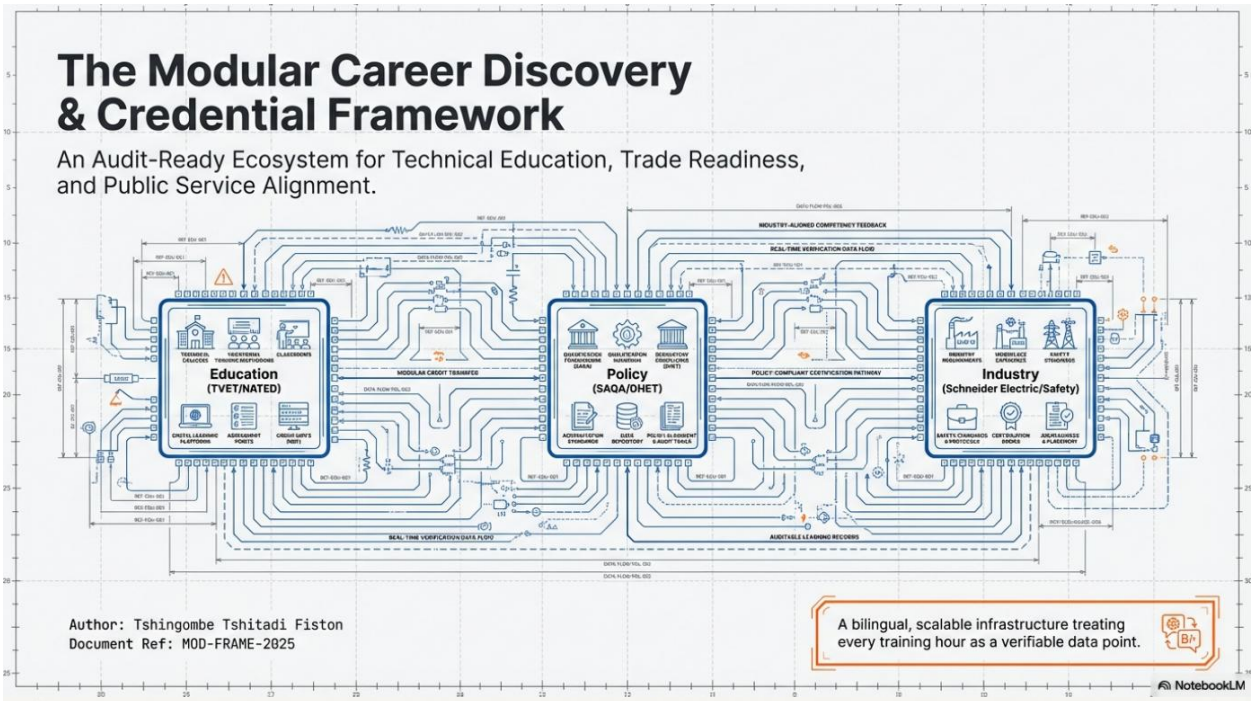

THE SOFTWARE ECOSYSTEM
Repository Tracking & Project Import History
Source
Destination
Status
engineering-workbaseexperimental...
my-org/engineering-workbase
Complete
education-technologe-saqa-result...
my-org/education-tech-saqa
Complete
bitcoin
my-org/bitcoin-core
Complete
engineering-workexperimental-magazine...
my-org/engineering-mag
Failed
Module: ImportHistoryTracker.bas
NotebookLM
RESEARCH FINDINGS: CONCEPTUAL CHANGE
Question 1 (Logic)
100%
80%
60%
40%
20%
0%
78%
100%
100%
Pre-Test
Post-Test
Delayed Test
Question 6 (Circuit Structure)
100%
80%
60%
40%
20%
0%
57%
100%
100%
Pre-Test
Post-Test
Delayed Test
Explanation Quality
100%
80%
60%
40%
20%
0%
Pre-Test
Post-Test
Delayed Test
Qualitative Shift: Students moved from formulaic reasoning (V=IR) to model-based language ('resistors control flow').
Module: CalculateReadinessIndex.bas
NotebookLM

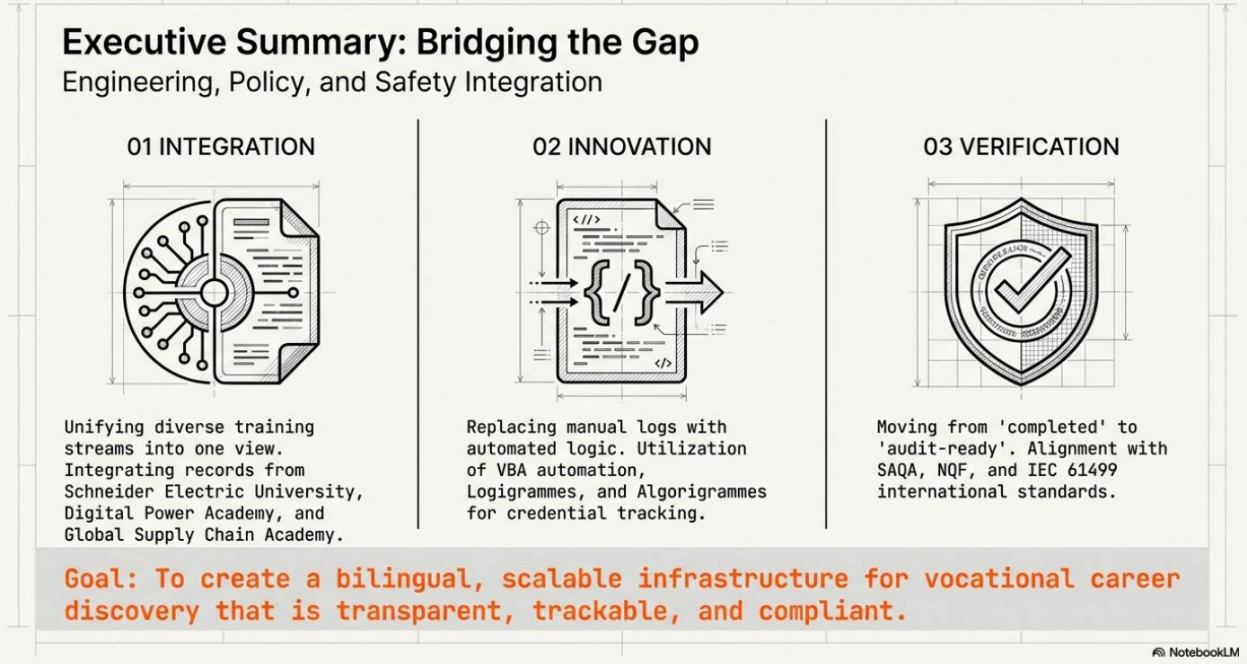

PUBLIC SERVICE & INDUSTRIAL DEPLOYMENT
SARS (Revenue Service)
Audit
Psychometrics
Audit-Ready Documentation
Traceability
SAPS (Police)
Security
Integrity
Audit-Ready Documentation
CERTIFIED LEARNER
Traceability
ESKOM (Power Utility)
Panel Wiring
Instrumentation
Traceability
Traceability
CITY POWER
Technical Portfolios
Module: [Module Name Placeholder]
NotebookLM


IMPLEMENTATION STRATEGY
STEP 2:
CONFIGURE PSYCHOMETRICS
.bas
.cls
.frm
STEP 1:
IMPORT MODULES
STEP 2:
CONFIGURE PSYCHOMETRICS
Set weights for cognitive/integrity.
STEP 3:
LINK DOCUMENTS
Connect Eaton/Schneider manuals.
STEP 4:
GENERATE DASHBOARD
Assets
• UserForms for registration
• Class Modules for pathways
• Standard Modules for logic
Module: ImplementationPlan.bas
NotebookLM

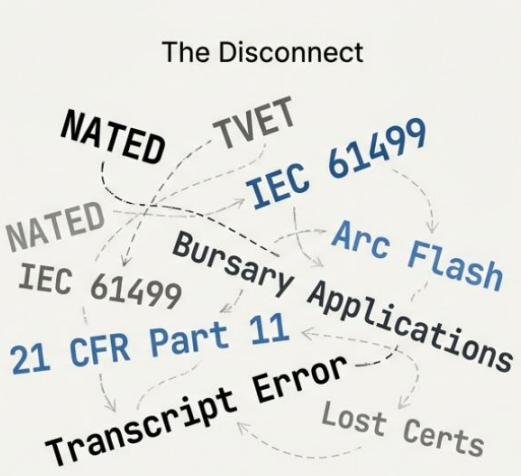

CONCLUSION: TOTAL CAREER PROGRAMMING
MIND
Psychometrics,
Phenomenology
SYSTEM
VBA, Certification,
Audit
DIDACTIC
AUTOPEDAGOGIE
HAND
Trade Panels,
Simulation
Empowering self-directed learning to create audit-ready, industry-aligned professionals.
Module: ImplementationPlan.bas
NotebookLM


The Autopedagogie Framework: An Integrated System for Engineering Career Development
Core Methodologies
Empowering Self-Directed Learning (Autopedagogie)
Data-Driven Career Alignment
Uses psychometric profiling to measure cognitive abilities and personality for optimal career fit.
Fostering Embodied Learning
The Technology Framework
Automating Learning Pathways
Powered by Visual Basic (VBA)
Delivering Actionable Insights
Credential-Linted Dushboard
Export-Ready Modules
Bilingual Auelt-Ready Reporting
Uses logigrams and algorigrame to map curriculum outcomes and track learner engagement.
Creates credential-linked dashboards, user forms. and export-ready modules for automation.
Provides export-ready, bilingual dashboards for audit-ready institutional and compliance reporting.
Logigram
Maps drawing material to NQF learning outcomes.
Algorigram
Tracks learner autonomy and panel engagement.
VBA Modules
Automate the export of templates and assessment sheets.
NotebookLM


The Modular Career Discovery & Credential Framework
An Audit-Ready Ecosystem for Technical Education, Trade Readiness, and Public Service Alignment.
Education (TVET/NATED)
Policy (SAQA/QHET)
Industry (Schneider Electric/Safety)
Author: Tshingombe Tshitadi Fiston
Document Ref: MOD-FRAME-2025
A bilingual, scalable infrastructure treating every training hour as a verifiable data point.
NotebookLM


Executive Summary: Bridging the Gap
Engineering, Policy, and Safety Integration
01 INTEGRATION
Unifying diverse training streams into one view. Integrating records from Schneider Electric University, Digital Power Academy, and Global Supply Chain Academy.
02 INNOVATION
Replacing manual logs with automated logic. Utilization of VBA automation, Logigrammes, and Algorigrammes for credential tracking.
03 VERIFICATION
Moving from 'completed' to 'audit-ready'. Alignment with SAQA, NQF, and IEC 61499 international standards.
Goal: To create a bilingual, scalable infrastructure for vocational career discovery that is transparent, trackable, and compliant.
NotebookLM

The Challenge of Fragmented Vocational Data



1. **Disconnect**
   The gap between vocational training (TVET/NATED) and industry-specific certification (Schneider/Modicon).
2. **Auditability**
   Legacy systems lack 'Audit-Readiness.' Manual transcripts are prone to error and hard to verify against government bills.
3. **Policy Misalignment**
   Difficulty aligning international technical standards (like IEC 61499) with local South African policy (SAQA/NQF/DHET).

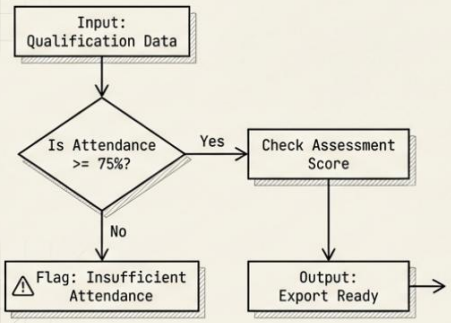
*"How can **policy irregularities** be resolved through technical documentation?"*
(Source: FBIP Concept Note)

NotebookLM

The Logic Engine: Logigrammes and Algorigrammes

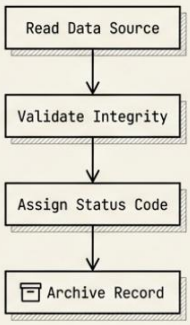
Transforming static training data into dynamic, actionable intelligence.

THE LOGIGRAMME (Decision Logic)



Decision-based flow logic for curriculum, attendance, and credential rules.

THE ALGORIGRAMME (Procedural Logic)



Step-by-step procedural logic for data validation and export workflows.

NotebookLM

Automation as Infrastructure

The `GenerateAuditSheet()` script automates compliance logs, tracking cost, status, and SAQA alignment instantly, eliminating manual administrative error.

```
Sub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ' Automated Cost & Amendment Tracking
    ws.Cells(2, 5).Formula = "=C2+D2"

    ' Real-time Status Indicators
    ws.Cells(2, 6).Value = "Pending Review"

    ' Algorithmic Archival Logic
    If exportStatus = "Eligible" Then
        Call ExportToArchive
    End If
End Sub
```

→ Automates cost calculations.

→ Instant status updates.

→ Automated archival logic.

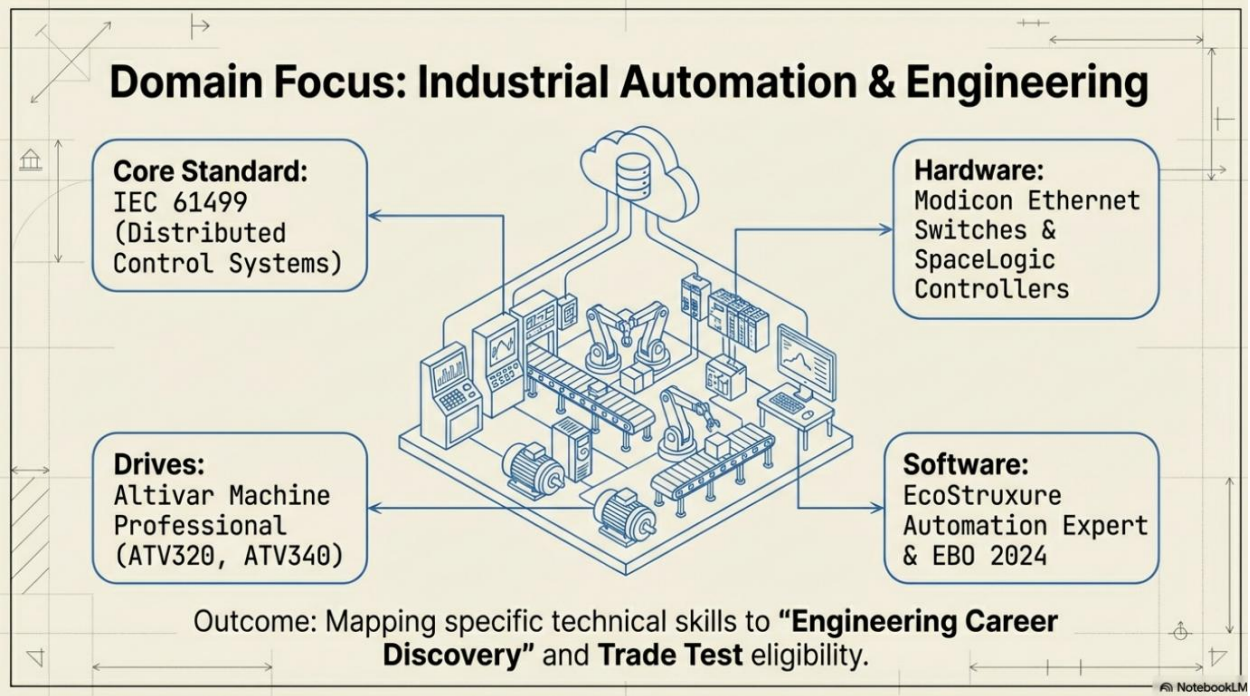
NotebookLM

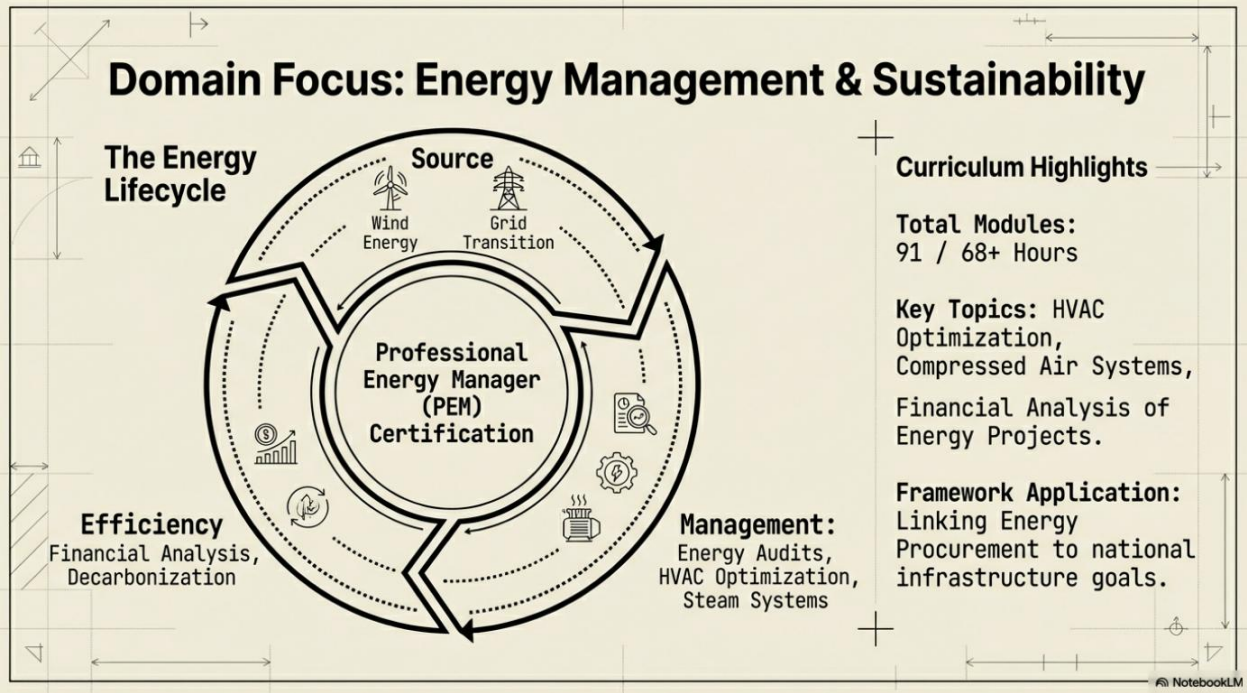
Proof of Concept: The Pilot Data Ecosystem

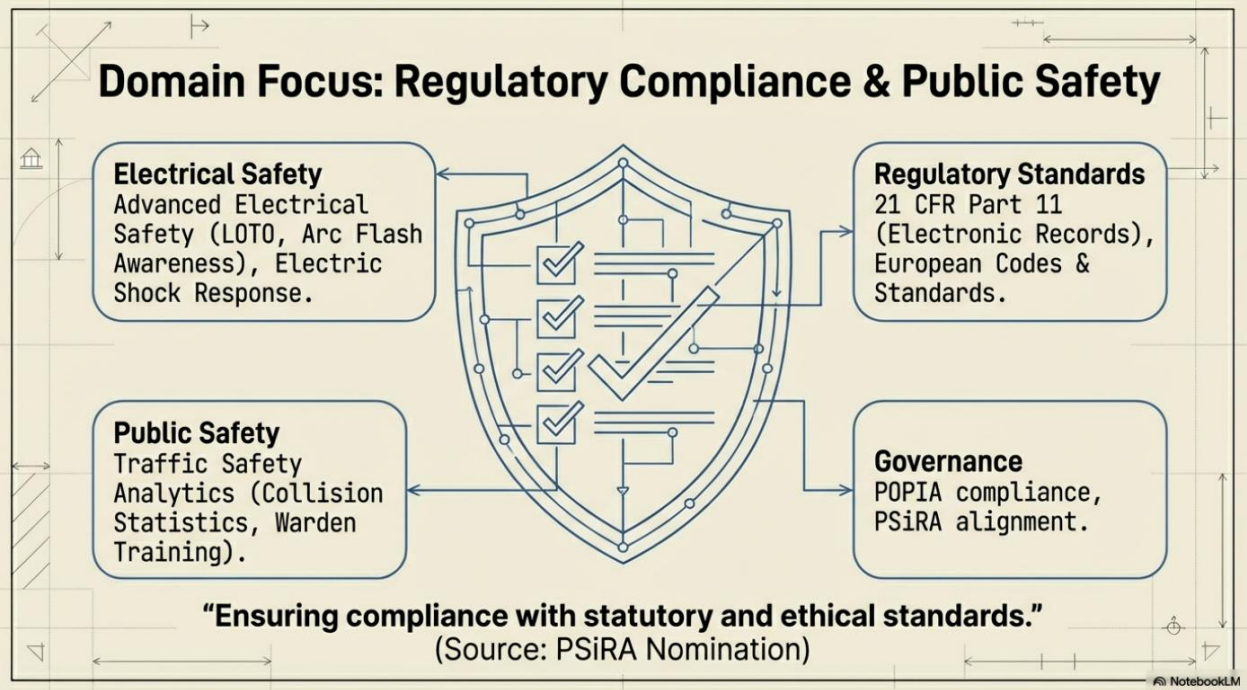
142 Total Active Modules	**12.2** Aggregate Training Hours
R0.00 Cost (Leveraging Open Access)	English, Portuguese, German, French, Spanish

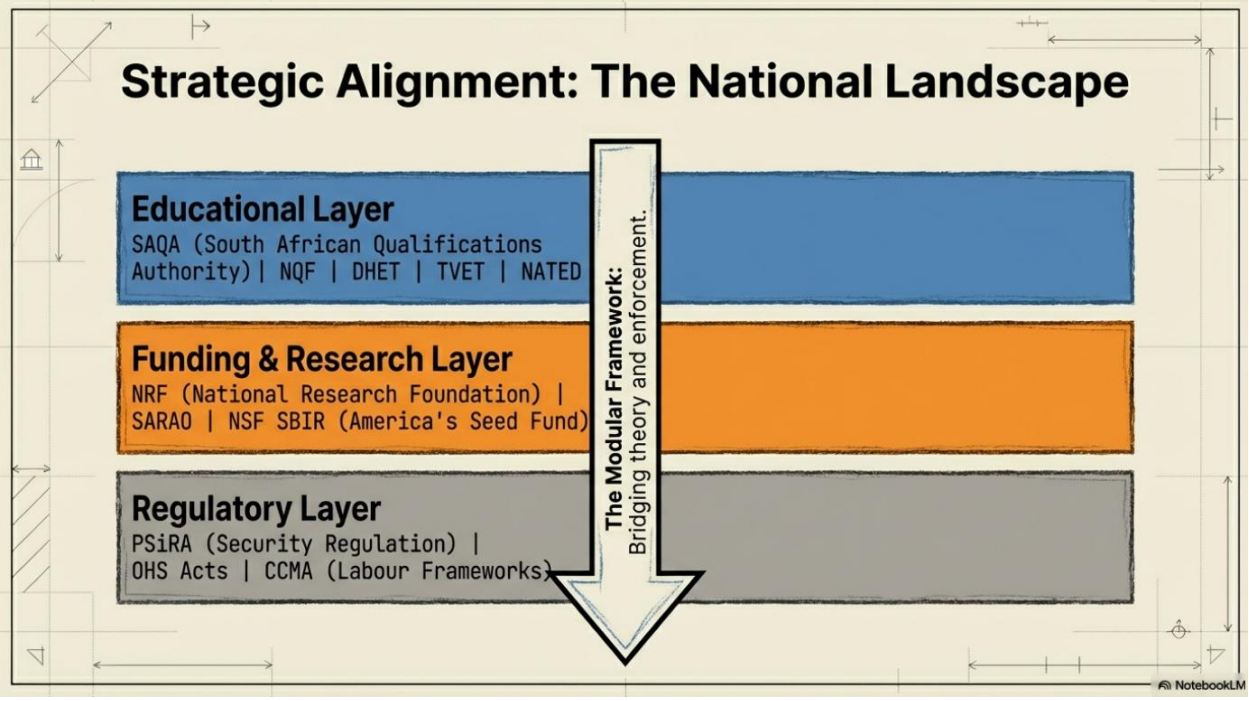
1	Schneider Electric University	Domain: Energy Management
2	Digital Power Academy	Domain: Energy Management Domain: EcoStruxure Panel Server
3	Global Supply Chain Academy	Domain: Advanced Electrical Safety
4	Digital Factory	Domain: Modicon Switches

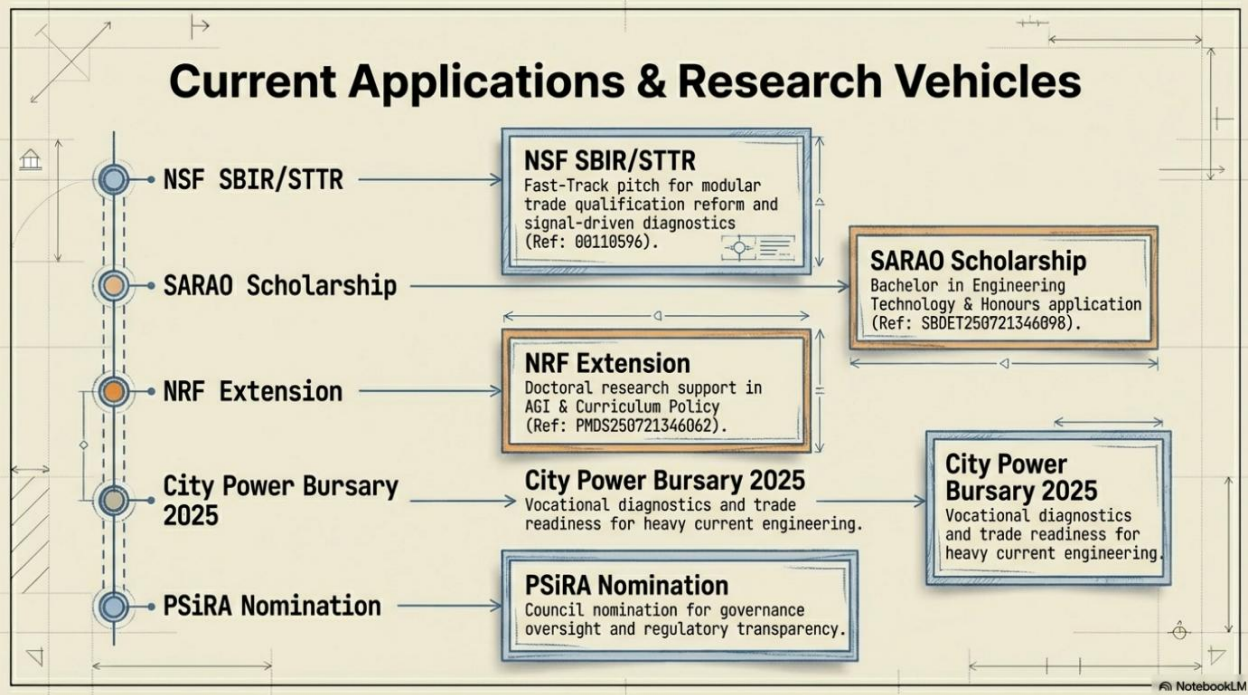
NotebookLM

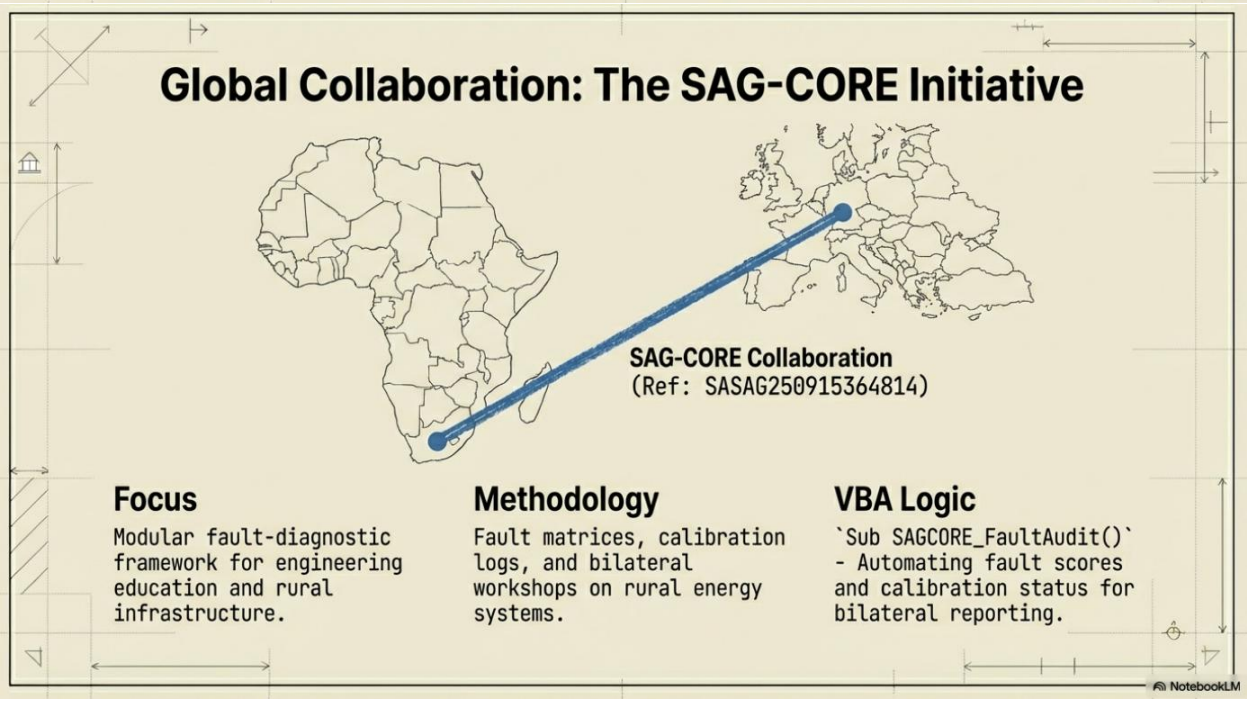

Domain Focus: Industrial Automation & Engineering
Core Standard:
IEC 61499
(Distributed
Control Systems)
Hardware:
Modicon Ethernet
Switches &
SpaceLogic
Controllers
Drives:
Altivar Machine
Professional
(ATV320, ATV340)
Software:
EcoStruxure
Automation Expert
& EBO 2024
Outcome: Mapping specific technical skills to "Engineering Career Discovery" and Trade Test eligibility.
NotebookLM

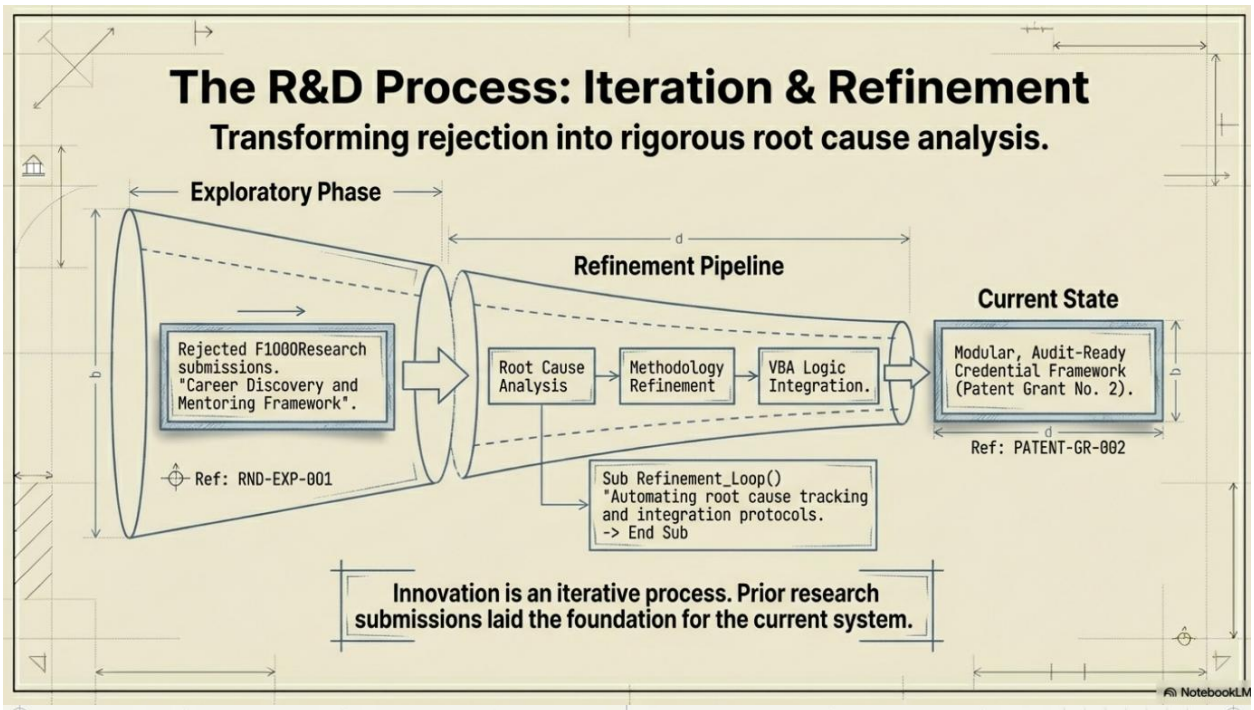

Domain Focus: Energy Management & Sustainability
The Energy Lifecycle
Source
Wind Energy
Grid Transition
Professional Energy Manager (PEM) Certification
Efficiency
Financial Analysis, Decarbonization
Management:
Energy Audits, HVAC Optimization, Steam Systems
Curriculum Highlights
Total Modules:
91 / 68+ Hours
Key Topics: HVAC Optimization, Compressed Air Systems,
Financial Analysis of Energy Projects.
Framework Application:
Linking Energy Procurement to national infrastructure goals.
NotebookLM

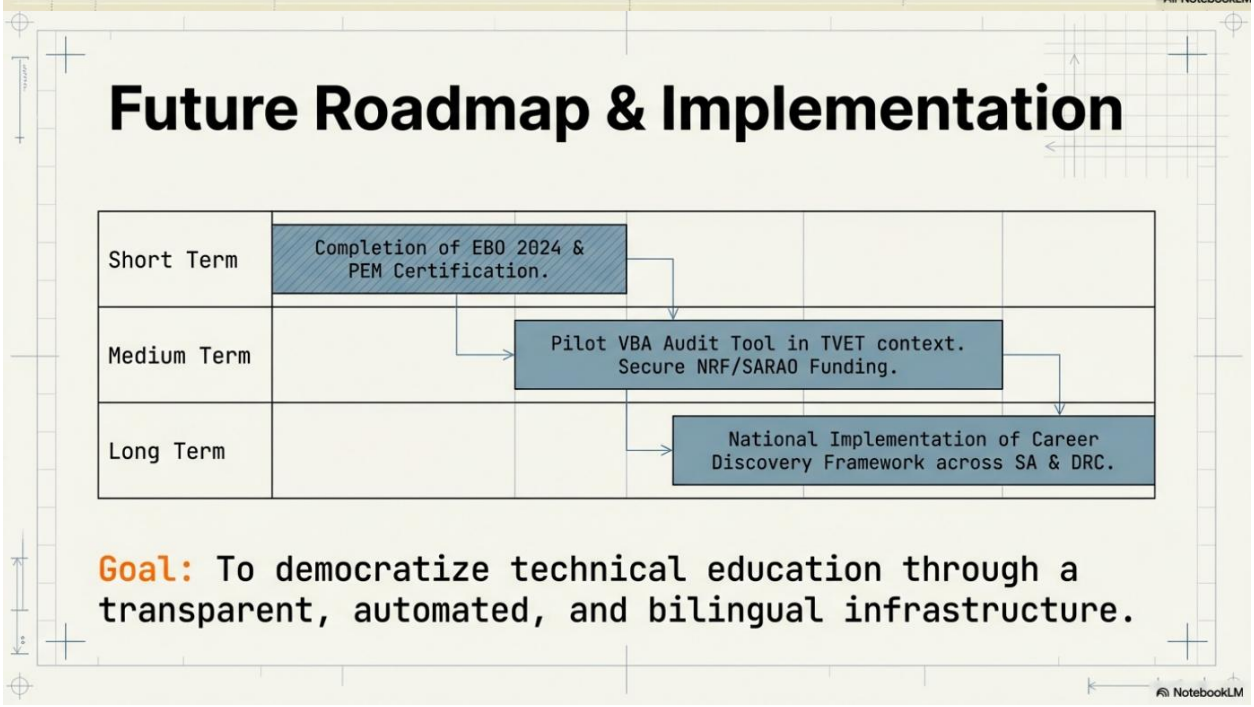

Domain Focus: Regulatory Compliance & Public Safety
Electrical Safety
Advanced Electrical Safety (LOTO, Arc Flash Awareness), Electric Shock Response.
Regulatory Standards
21 CFR Part 11 (Electronic Records), European Codes & Standards.
Public Safety
Traffic Safety Analytics (Collision Statistics, Warden Training).
Governance
POPIA compliance, PSiRA alignment.
"Ensuring compliance with statutory and ethical standards."
(Source: PSiRA Nomination)
NotebookLM


Strategic Alignment: The National Landscape
Educational Layer
SAQA (South African Qualifications Authority) | NQF | DHET | TVET | NATED
Funding & Research Layer
NRF (National Research Foundation) | SARAO | NSF SBIR (America's Seed Fund)
Regulatory Layer
PSiRA (Security Regulation) | OHS Acts | CCMA (Labour Frameworks)
The Modular Framework:
Bridging theory and enforcement.
NotebookLM


Current Applications & Research Vehicles
NSF SBIR/STTR
SARAO Scholarship
NRF Extension
City Power Bursary 2025
PSiRA Nomination
NSF SBIR/STTR
Fast-Track pitch for modular trade qualification reform and signal-driven diagnostics (Ref: 00110596).
SARAO Scholarship
Bachelor in Engineering Technology & Honours application (Ref: SBDET250721346098).
NRF Extension
Doctoral research support in AGI & Curriculum Policy (Ref: PMDS250721346062).
City Power Bursary 2025
Vocational diagnostics and trade readiness for heavy current engineering.
City Power Bursary 2025
Vocational diagnostics and trade readiness for heavy current engineering.
PSiRA Nomination
Council nomination for governance oversight and regulatory transparency.
NotebookLM


Global Collaboration: The SAG-CORE Initiative
SAG-CORE Collaboration
(Ref: SASAG250915364814)
Focus
Modular fault-diagnostic framework for engineering education and rural infrastructure.
Methodology
Fault matrices, calibration logs, and bilateral workshops on rural energy systems.
VBA Logic
`Sub SAGCORE_FaultAudit()` - Automating fault scores and calibration status for bilateral reporting.
NotebookLM


The R&D Process: Iteration & Refinement
Transforming rejection into rigorous root cause analysis.
Exploratory Phase
Refinement Pipeline
Current State
Rejected F1000Research submissions. "Career Discovery and Mentoring Framework".
Root Cause Analysis
Methodology Refinement
VBA Logic Integration.
Modular, Audit-Ready Credential Framework (Patent Grant No. 2).
Ref: RND-EXP-001
Ref: PATENT-GR-002
Sub Refinement_Loop()
"Automating root cause tracking and integration protocols.
-> End Sub
Innovation is an iterative process. Prior research submissions laid the foundation for the current system.
NotebookLM


Future Roadmap & Implementation
Short Term
Completion of EBO 2024 & PEM Certification.
Medium Term
Pilot VBA Audit Tool in TVET context. Secure NRF/SARAO Funding.
Long Term
National Implementation of Career Discovery Framework across SA & DRC.
Goal: To democratize technical education through a transparent, automated, and bilingual infrastructure.
NotebookLM

Preserving Legacy, Building the Future

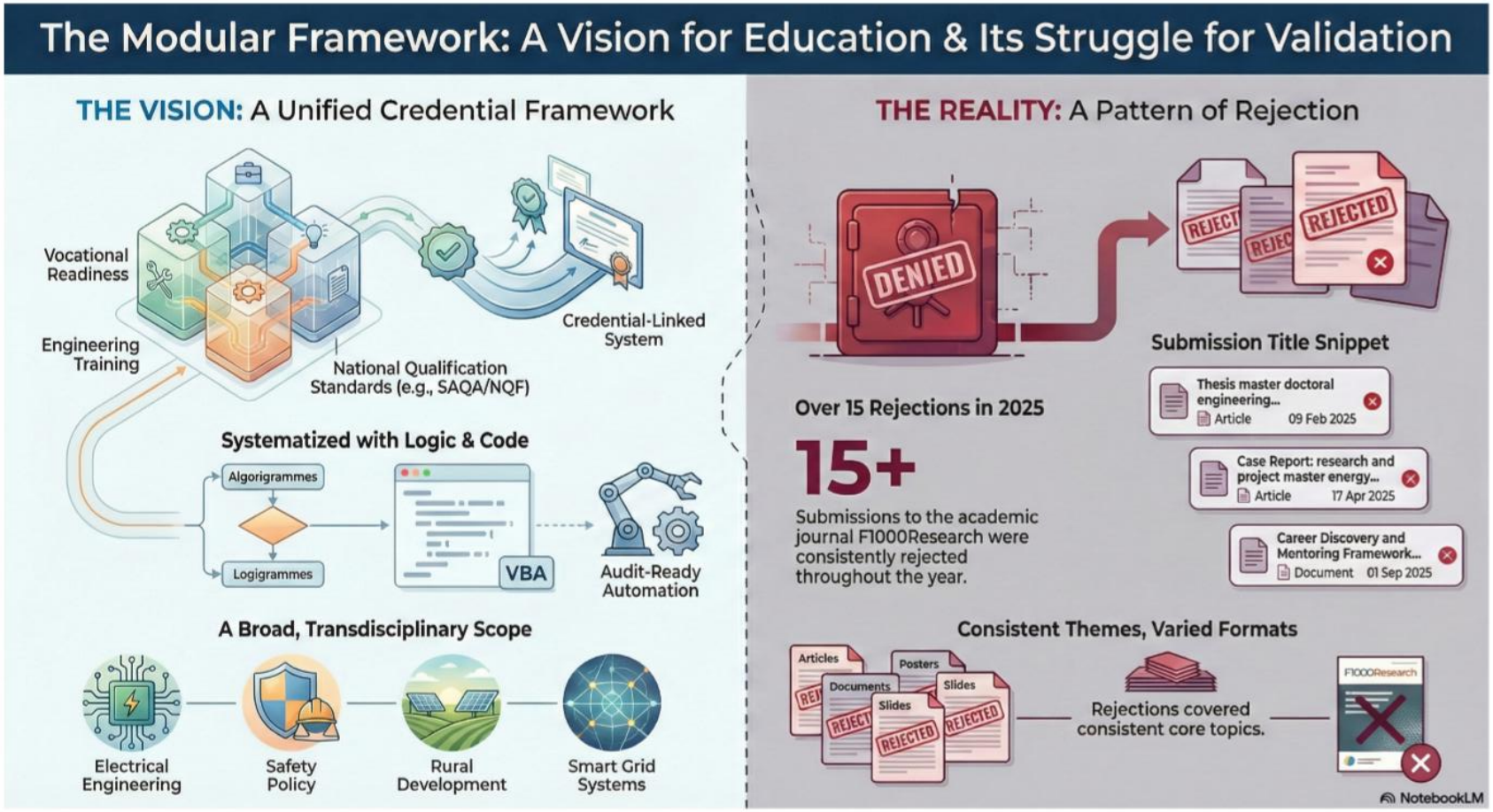
The Integrated System
JetBrains Mono

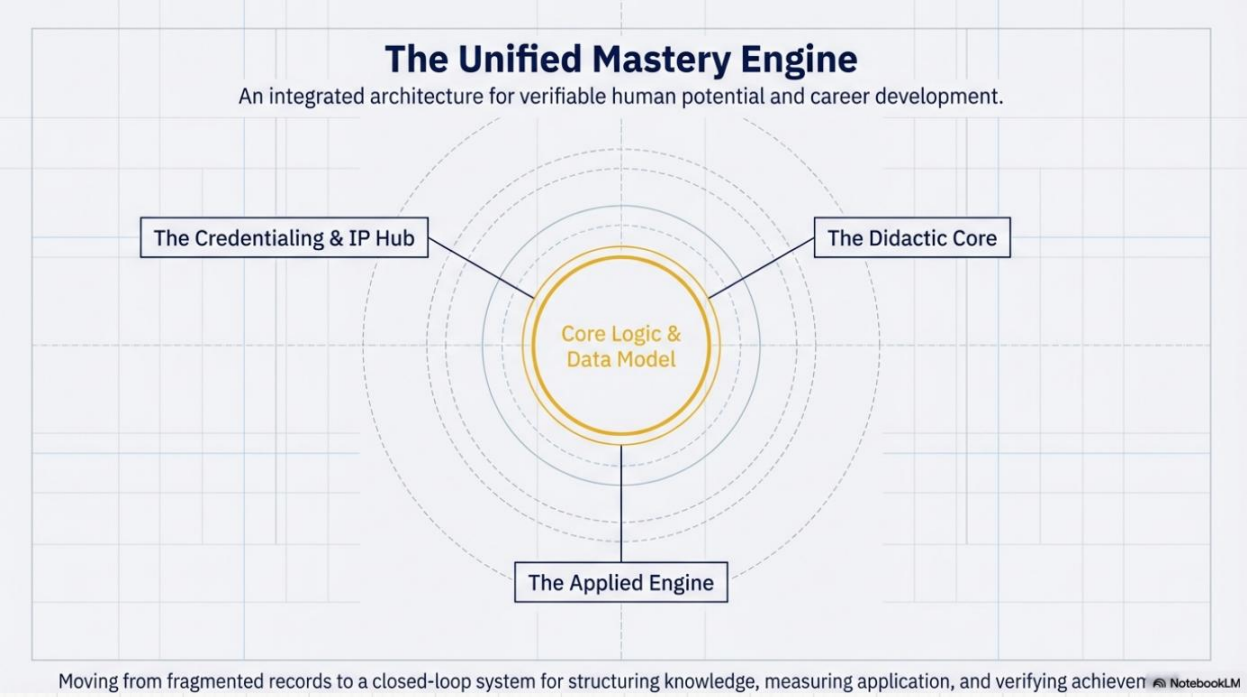
- **Validated:** 142+ Modules tracked and verified.
- **Automated:** VBA-driven compliance and cost tracking.
- **Aligned:** Mapped to SAQA, NQF, and International Standards.

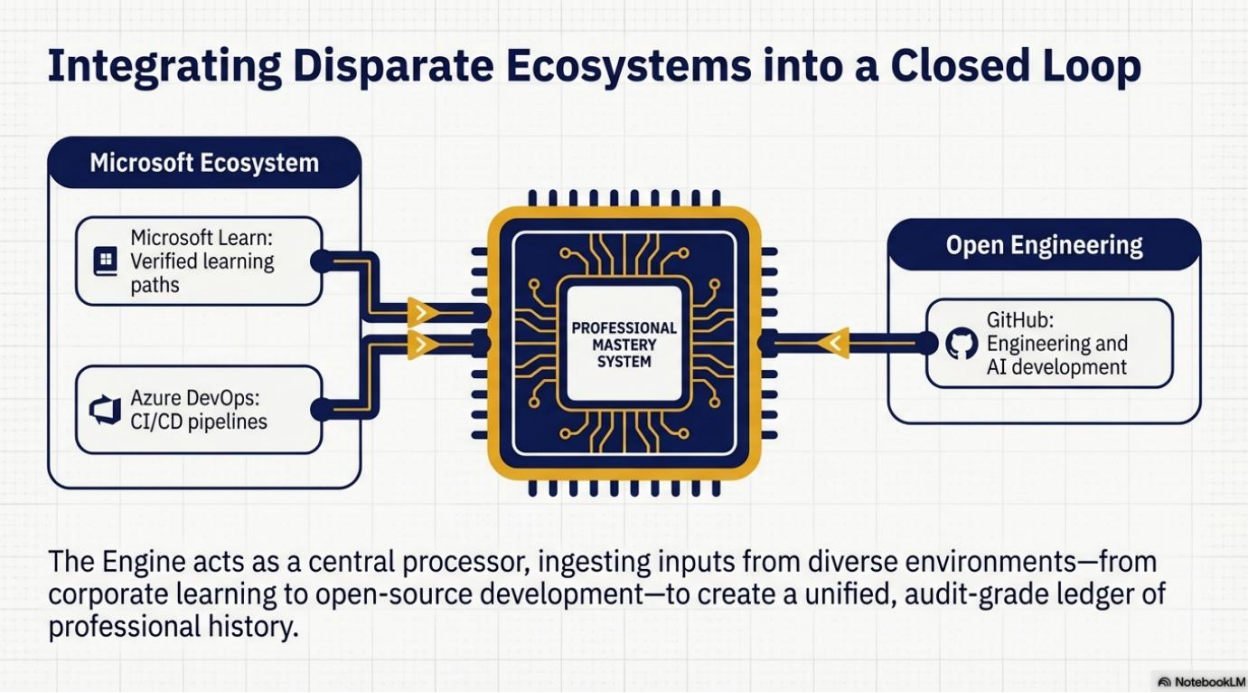
Target details to state

"A visionary integration of engineering, labour policy, and credential transparency to scaffold a scalable, audit-ready infrastructure for Africa."

NotebookLM


The Modular Framework: A Vision for Education & Its Struggle for Validation
THE VISION: A Unified Credential Framework
Vocational Readiness
Engineering Training
National Qualification Standards (e.g., SAQA/NQF)
Credential-Linked System
Systematized with Logic & Code
Algorigrammes
Logigrammes
VBA
Audit-Ready Automation
A Broad, Transdisciplinary Scope
Electrical Engineering
Safety Policy
Rural Development
Smart Grid Systems
THE REALITY: A Pattern of Rejection
DENIED
REJECTED
Submission Title Snippet
Thesis master doctoral engineering...
Article 09 Feb 2025
Case Report: research and project master energy...
Article 17 Apr 2025
Career Discovery and Mentoring Framework...
Document 01 Sep 2025
Over 15 Rejections in 2025
15+
Submissions to the academic journal F1000Research were consistently rejected throughout the year.
Consistent Themes, Varied Formats
Articles
Posters
Documents
Slides
Slides
Rejections covered consistent core topics.
F1000Research
NotebookLM

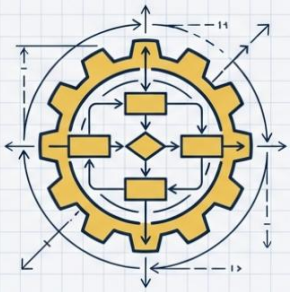

The Unified Mastery Engine
An integrated architecture for verifiable human potential and career development.
The Credentialing & IP Hub
The Didactic Core
Core Logic & Data Model
The Applied Engine
Moving from fragmented records to a closed-loop system for structuring knowledge, measuring application, and verifying achieven
NotebookLM


Integrating Disparate Ecosystems into a Closed Loop
Microsoft Ecosystem
Microsoft Learn: Verified learning paths
Azure DevOps: CI/CD pipelines
PROFESSIONAL MASTERY SYSTEM
Open Engineering
GitHub: Engineering and AI development
The Engine acts as a central processor, ingesting inputs from diverse environments—from corporate learning to open-source development—to create a unified, audit-grade ledger of professional history.
NotebookLM

Three Pillars of Verifiable Potential

Pillar 1: The Didactic Core

Structuring Knowledge.
How knowledge is acquired through a library of modular, cross-disciplinary curricula.



Pillar 2: The Applied Engine

Measuring Application
How knowledge is applied and measured through project-based work, simulations, and quantitative analysis.

Pillar 3: The Credentialing & IP Hub

Verifying Achievement
How achievement is verified through national frameworks, blockchain certificates, and a structured patent lifecycle.

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NotebookLM

Pillar 1: A Library of Structured Knowledge

The foundation of the system is a comprehensive library of didactic modules, mapped directly to qualifications.

MASTERS-LEVEL CURRICULUM

Renewable Energy

Wind Energy: Understanding the Technology and Integration.
Solar Energy: Exploring Photovoltaic Systems.

MASTERS-LEVEL CURRICULUM

Supply Chain Management

Masters in Supply Chain Management and Traceability.
Focus on flow of goods, information, and finances from origin to consumer.

MASTERS-LEVEL CURRICULUM

Spatial Computing

Spatial Computing in Telecommunications
Utilizing GIS, LBS, and remote sensing for network optimization.

MASTERS-LEVEL CURRICULUM

Genetic Engineering

Biopharmaceutical Manufacturing
Focus on fermentation technology, scale-up, and quality control.

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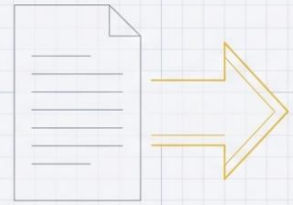
Ingestion: Structuring the Electrical Engineering Syllabus



Raw Syllabus Source

Module ID	Module Name	Exercises	Duration	Key Topics
Mod-01	Electronic Practice	15	175 Hrs	Diodes, Rectifiers, Transistor Biasing
Mod-02	Control Panel Wiring	5	100 Hrs	Induction motors, Star-delta starters
Mod-03	AC/DC Motor Drives	3	50 Hrs	Speed control using Thyristors
Mod-05	Power Generation	7	50 Hrs	Solar panel assembly, Wind power layouts
Total Program	Electrician 4th Semester	48	525 Hrs	Vocational Standard Level 5

Precise time-tracking for credit calculation.

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Pillar 2: The Mathematics of Renewable Energy

Curriculum is built on fundamental engineering principles, using integral calculus to verify performance.

Wind Energy - Integral Calculations

Total Power Output

$$P_{total} = \int_0^T P(t)\,dt$$

Energy Harvested

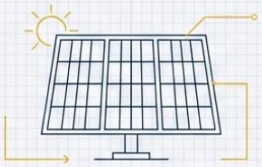
$$E = \int_0^T \left(\frac{1}{2} * A * v^3 * \eta\right) dt$$

rho = Air Density
eta = Efficiency

Solar Energy - Integral Calculations

Total Energy Generated

$$E_{total} = \int_0^T P(t)\,dt$$



Social Media Marketing (Cross-disciplinary)

Total Engagement

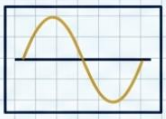
$$E_{total} = \int_0^T E(t)\,dt$$

Demonstrates the extensibility of the mathematical model to non-engineering domains.

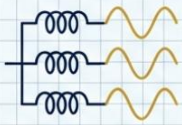
NotebookLM

Simulation & Verification: The UniTrain Integration

DC Technology



AC Technology



Three-Phase Technology

KNX® Building Automation

```
' Module: UniTrainICredentialTracker
' Purpose: Automate training progress, fault simulation, and credentialing
Type UniTrainTrainee
    Name As String
    CourseCode As String
    DC_Module As Boolean
    AC_Module As Boolean
    ThreePhase_Module As Boolean
    FaultsResolved As Integer
    TotalFaults As Integer
    CertificationStatus As String
End Type
```

NotebookLM

The Engine's Source Code: Verifiable Logic

The backend is built on robust, auditable Visual Basic (VBA) modules that automate physics calculations and project estimation.

Renewable Energy & Smart Grid Functions

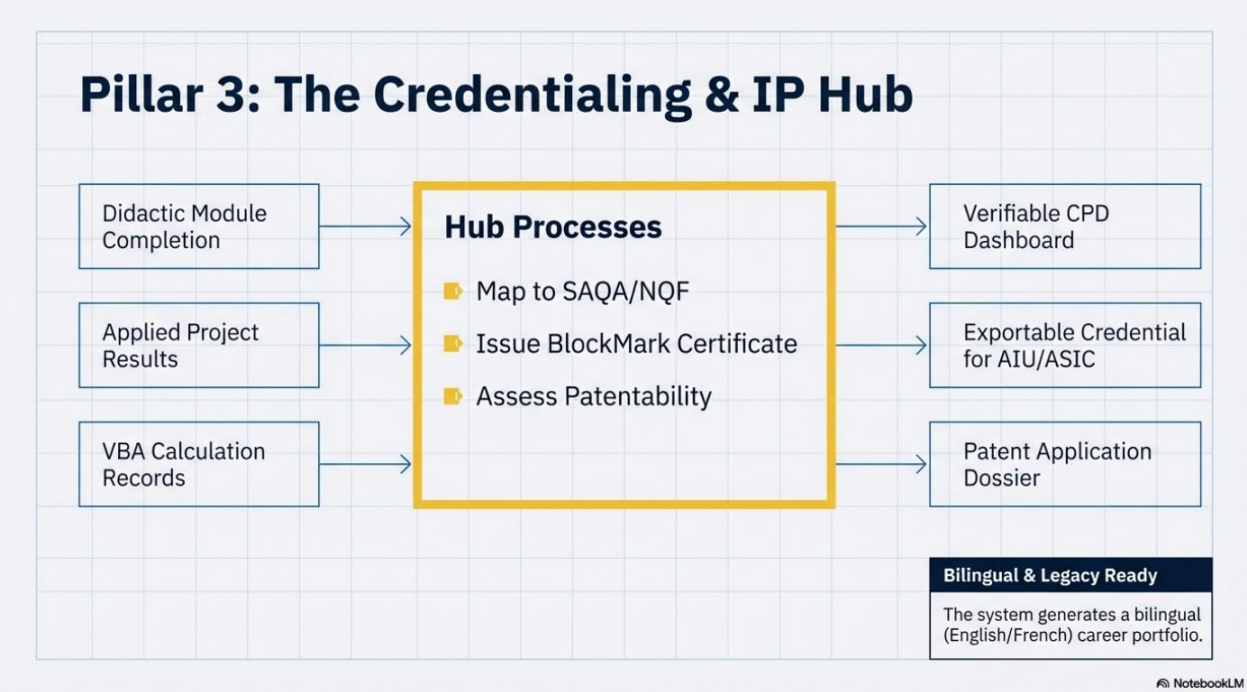
```
' Renewable Energy: Wind Harvest
Function WindEnergyHarvest(rho, A, v, eta, duration) As Double
   WindEnergyHarvest = 0.5 * rho * A * (v ^ 3) * eta * duration
End Function

' Solar Efficiency
Function SolarEfficiency(Egenerated, Eincident) As Double
   ...
End Function
```

Project Cost Estimation Logic

```
' Estimate Total Project Cost
...
'String Concatenation for Reporting
"Human Resource: " & FormatCurrency(entry.HumanResourceCost)
"Material: " & FormatCurrency(entry.MaterialCost)
"Building / Infrastructure:" & FormatCurrency(entry.BuildingCost)
"Total Cost: " & FormatCurrency(EstimateTotalProjectCost(...))
```

NotebookLM



Regulatory Alignment: Mapping to National Standards

The platform's data model aligns with rigorous national qualification frameworks, such as SAQA (South Africa) and NQF.

SAQA ID 63790: National Certificate: Electrical Engineering (NQF Level 3, 133 Credits)

Component	Unit Standard ID	Title	Credits
Core	258963	Install, test and maintain electrical equipment in a hazardous location	10
Core	113924	Install and commission DC and AC machines and control gear	10
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	5
Elective	259097	Carry out a detailed inspection and repair defects on explosion prevention apparatus	6

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International Interoperability: The French BTS Model

The architecture adapts to diverse international standards, including the French Brevet de Technicien Supérieur (BTS) in Electrotechnics.

Professional Activities

- Étude - Conception préliminaire (Preliminary study & design)
- Conception - étude détaillée du projet (Detailed project design)
- Analyse – diagnostic (Analysis – diagnostic)
- Maintenance d'une installation électrique (Maintenance of an electrical installation)
- Réalisation : installation – intégration (Realization: installation – integration)

Certified Competencies

- Modéliser le comportement de tout ou partie d'un ouvrage (Model system behavior)
- Dimensionner les constituants (Dimension components)
- Proposer l'architecture d'un ouvrage (Propose system architecture)
- Gérer et conduire le projet/chantier (Manage the project)

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From Skills to Assets: The Patent Pathway

Patentability Criteria

1. **Novelty:** Not publicly disclosed before filing.
2. **Utility:** Must function and serve a useful purpose.
3. **Inventive Step:** Not obvious to a skilled professional in the field.

VBA Logic for Patent Tracking

```
' Module: Research and Patent Lifecycle Tracker

Type ResearchPatentProject
    ProjectID As String
    ScopeDefined As Boolean
    MethodologySet As Boolean
    PatentNovelty As Boolean
    PatentUtility As Boolean
    PatentInventiveStep As Boolean
    PatentFiled As Boolean
End Type
```

NotebookLM

The Mechanics of Verification: Blockchain-Ready Credentials

Integration with BlockMark Technologies allows for the issuance of secure, verifiable digital certificates.

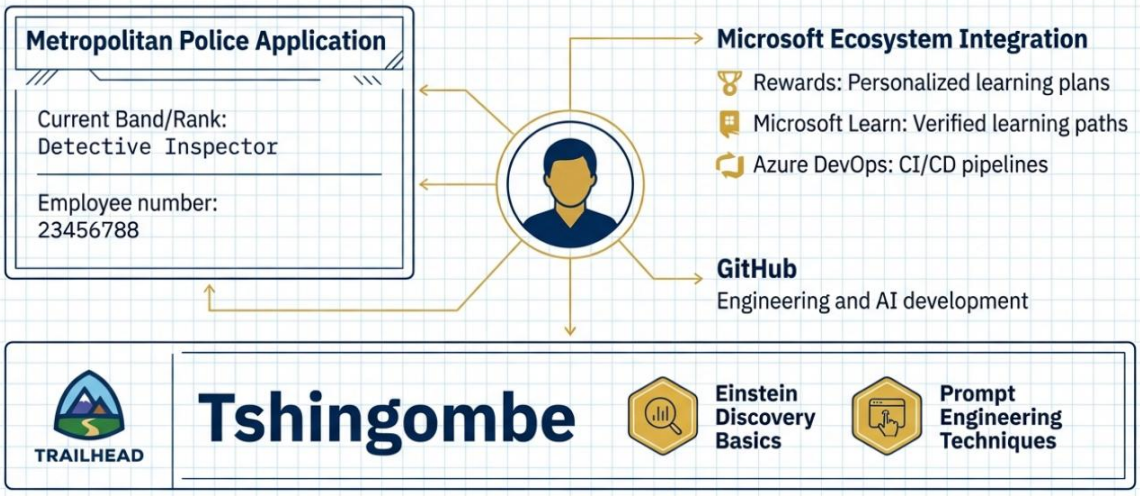
BlockMark Certificate Issuance Price List

Item	Price (credits)	Paid for by
Issue a certificate with an expiry date	£1 (100) per year	Issuer
Issue a non-expiring certificate	£10 (1000)	Issuer
Issue a CPD folder with a certificate	£1 (100) per year	Issuer
Stamp a hash of an issued certificate on blockchain	£1 (100)*	Issuer

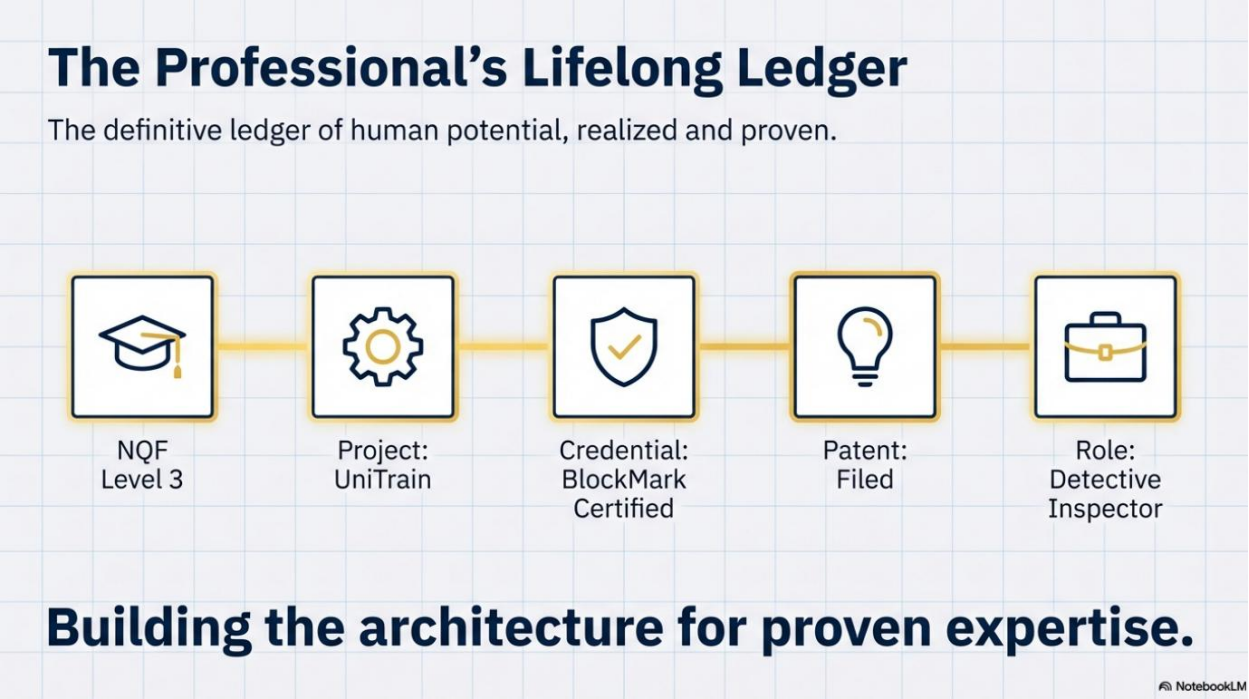
*Coming soon (currently beta-testing with no charge)

NotebookLM

The Professional's Journey: Tshingombe's Integrated Career Engine



NotebookLM


The Professional's Lifelong Ledger
The definitive ledger of human potential, realized and proven.
NQF Level 3
Project: UniTrain
Credential: BlockMark Certified
Patent: Filed
Role: Detective Inspector
Building the architecture for proven expertise.
NotebookLM

A Unified Architecture for Verifiable Professional Mastery

A continuous, audit-grade foundation bridging theoretical knowledge and practical skill, culminating in blockchain-ready credentials and intellectual property.

Audit-Grade Traceability

Provides a continuous, verifiable trail from a lesson plan to a final credential.

Global Standard Alignment

Architecture integrates with diverse standards including South African SAQA/NQP and French BTS.

The Didactic Core

Structures acquired knowledge through modular, cross-disciplinary curricula mapped to national qualification frameworks.

The Applied Engine

Measures knowledge application through technical simulations, project-based work, and quantitative analysis.

The Credentialing & IP Hub

Formalizes mastery through blockchain-secured certificates, SAQA mapping, and structured patent lifecycle management.

The Lifelong Ledger

Creates a dynamic record of accumulated knowledge, realized potential, and innovative professional contributions.

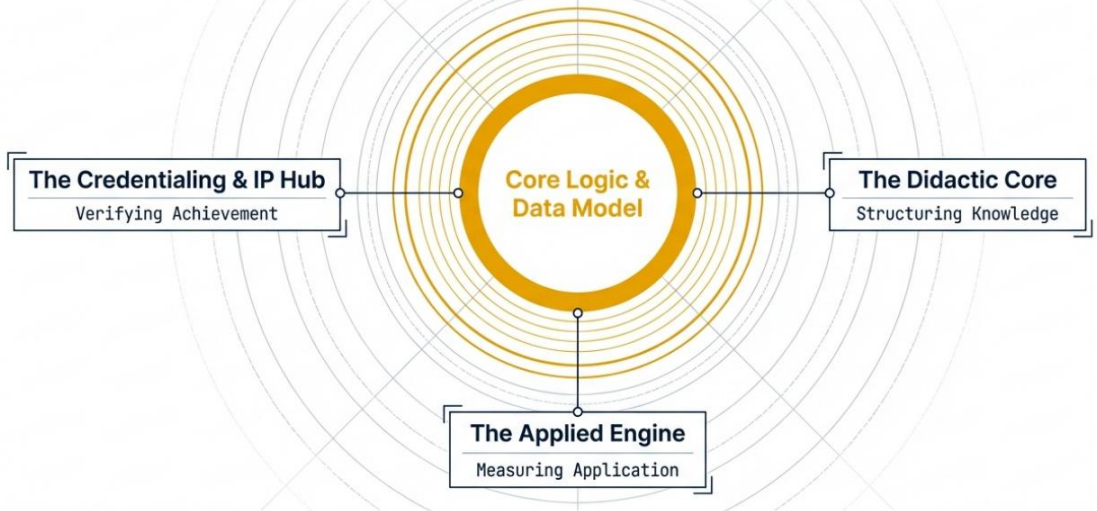
Verification Costs (Blockchain-Ready Credentials)

Item	Price (credits)	Paid for by
Issue certificate (Expiry date)	£1 (100) per year	Issuer
Issue non-expiring certificate	£10 (1000)	Issuer
Stamp hash on blockchain	£1 (100)*	Issuer

NotebookLM

The Unified Mastery Engine: An Architecture for Verifiable Human Potential

Integrating structured knowledge, practical application, and credentialing into a single, audit-grade career ledger.

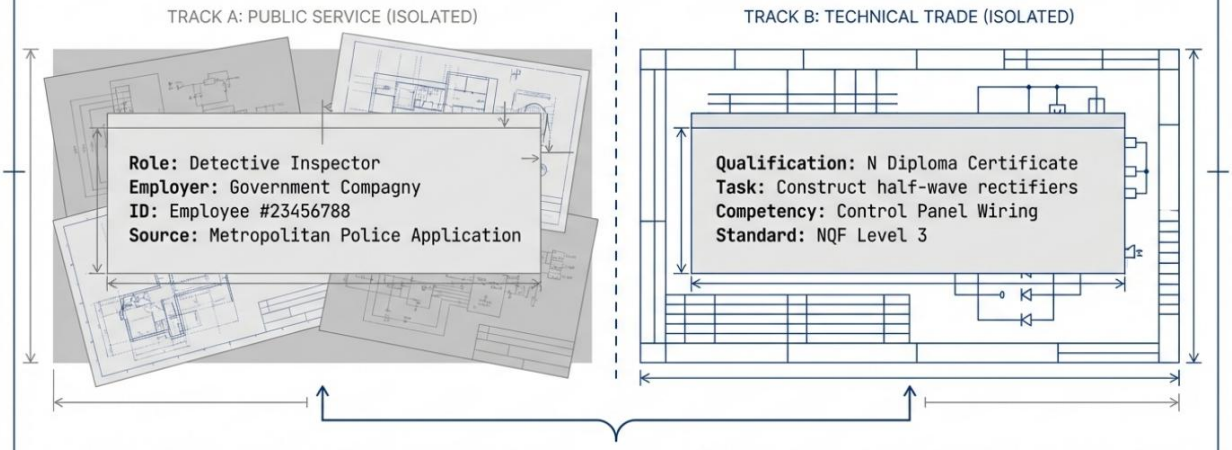


System Overview: A system of systems designed to structure the chaos of modern professional development. From raw curriculum to blockchain-verified

NotebookLM

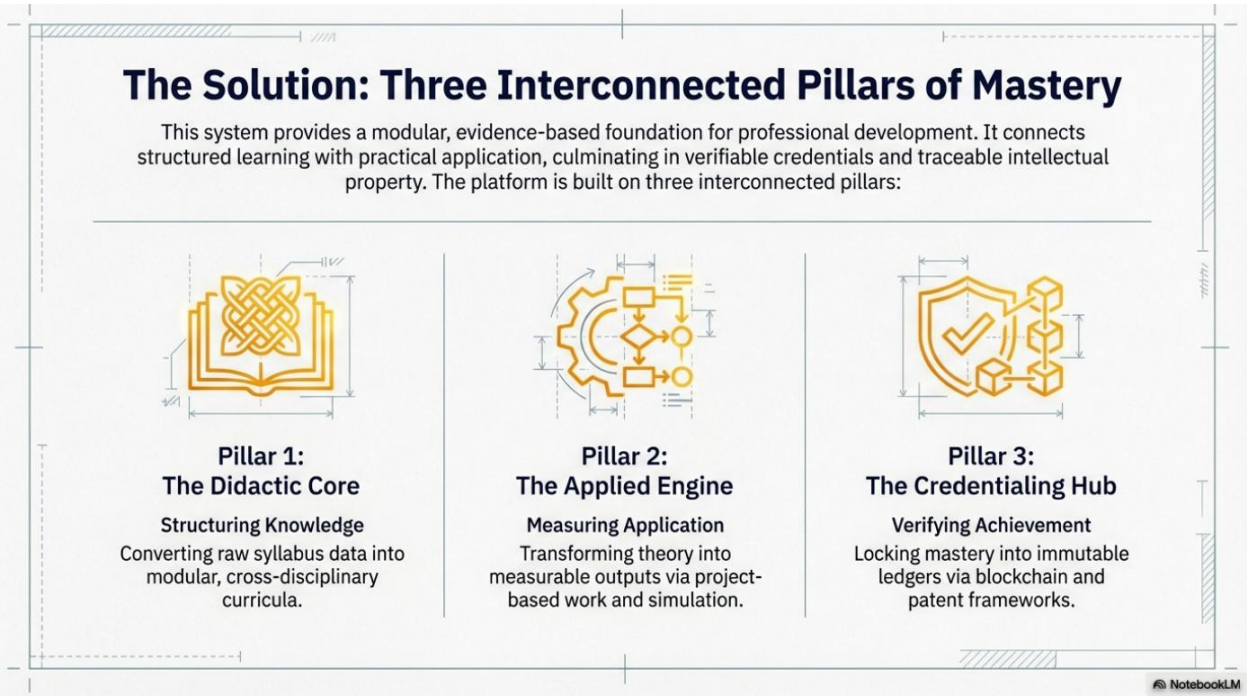
The Challenge: Fragmented Expertise in a Multi-Disciplinary World

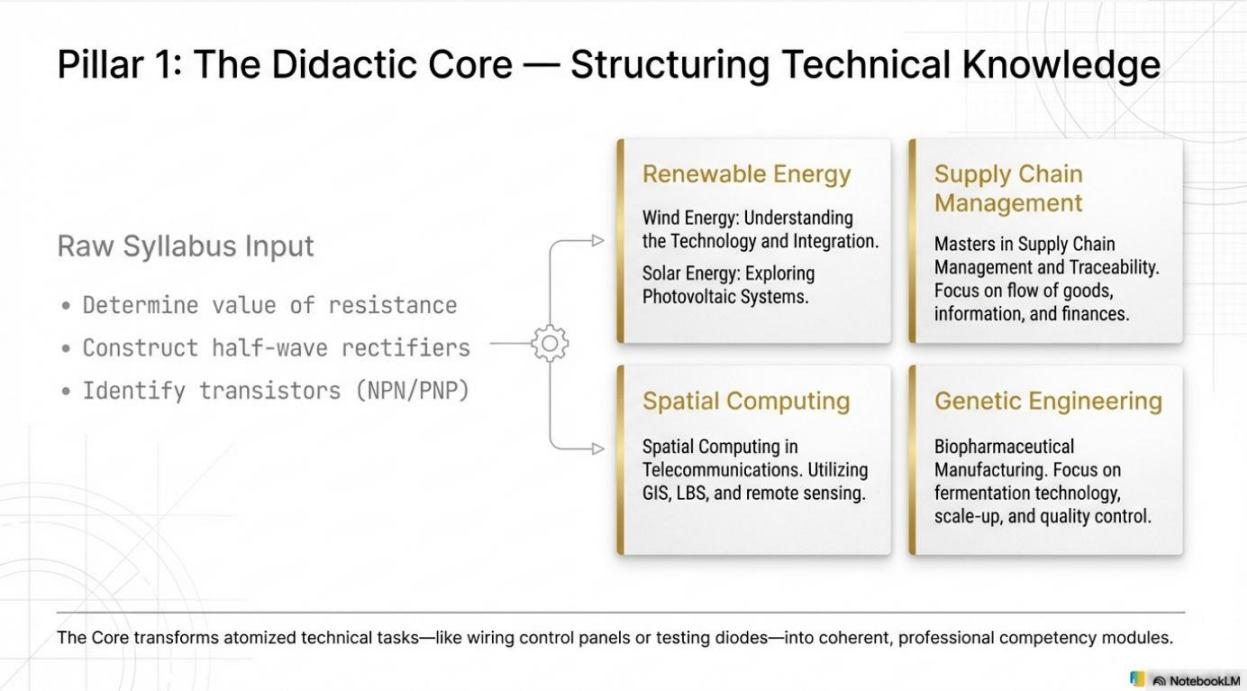
Talent is multi-dimensional, yet current professional tracking is static and siloed. We face a disconnect between what is known (Theory), what is done (Application), and how it is verified.



Insight: Without a unified engine, these disparate data points remain isolated—representing lost human capital potential.

NotebookLM


The Solution: Three Interconnected Pillars of Mastery
This system provides a modular, evidence-based foundation for professional development. It connects structured learning with practical application, culminating in verifiable credentials and traceable intellectual property. The platform is built on three interconnected pillars:
Pillar 1:
The Didactic Core
Structuring Knowledge
Converting raw syllabus data into modular, cross-disciplinary curricula.
Pillar 2:
The Applied Engine
Measuring Application
Transforming theory into measurable outputs via project-based work and simulation.
Pillar 3:
The Credentialing Hub
Verifying Achievement
Locking mastery into immutable ledgers via blockchain and patent frameworks.
NotebookLM


Pillar 1: The Didactic Core — Structuring Technical Knowledge
Raw Syllabus Input
• Determine value of resistance
• Construct half-wave rectifiers
• Identify transistors (NPN/PNP)
Renewable Energy
Wind Energy: Understanding the Technology and Integration.
Solar Energy: Exploring Photovoltaic Systems.
Supply Chain Management
Masters in Supply Chain Management and Traceability. Focus on flow of goods, information, and finances.
Spatial Computing
Spatial Computing in Telecommunications. Utilizing GIS, LBS, and remote sensing.
Genetic Engineering
Biopharmaceutical Manufacturing. Focus on fermentation technology, scale-up, and quality control.
The Core transforms atomized technical tasks—like wiring control panels or testing diodes—into coherent, professional competency modules.
NotebookLM

Technical Depth: The Mathematics of Renewable Energy

Each module is built upon fundamental scientific principles. We quantify professional understanding through the core mathematical models required for practice.

Wind Energy Harvest

$$E = \int_0^T \frac{1}{2} \rho A v^3 \eta \, dt$$

ρ = Air Density

η = Efficiency

Solar Energy Generated

$$E_{total} = \int_0^T P(t) \, dt$$

Social Media Marketing (Cross-disciplinary)

$$E_{total} = \int_0^T E(t) \, dt$$

Demonstrates the extensibility of the mathematical model to non-engineering domains.

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Pillar 2: The Applied Engine — From Theory to Measurable Application

[Load Project Parameters]

↓

[Compute **Integrals** (Time, Resources, Risks)]

↓

[Compute **Derivatives** (Rates of Change)]

Project Planning

$$Total\ Time: T = \int_0^N t_i \, di$$

Resource Management

$$Total\ Consumption: R = \int_0^T r(t) \, dt$$

Cost Projection

$$Total\ Cost: C_{total} = \sum (M_{material} + H_{human} + S_{stationery} + B_{building})$$

The Engine translates didactic learning into practical outcomes. Every project parameter—from material cost to human resource time—is tracked and quantified.

NotebookLM

NotebookLM

The Engine's Source Code: Verifiable Logic

The system's backend is built on robust, auditable code. These VBA modules automate calculations, creating a verifiable record.

Renewable Energy & Smart Grid Functions

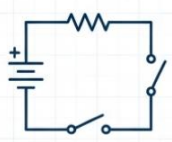
```
' Renewable Energy: Wind Harvest
Function WindEnergyHarvest(rho, A, v, eta,
duration) As Double
    WindEnergyHarvest = 0.5 * rho * A * (v ^ 3) *
eta * duration
End Function

' Solar Efficiency
Function SolarEfficiency(Egenerated, Eincident) As
Double
    ...
End Function
```

Project Cost Estimation Logic

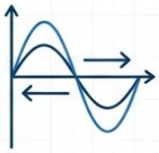
```
' Estimate Total Project Cost
...

  "Human Resource: " &
  FormatCurrency(entry.HumanResourceCost)
  "Material: " &
  FormatCurrency(entry.MaterialCost)
  "Building / Infrastructure:" &
  FormatCurrency(entry.BuildingCost)

  "Total Cost: " &
  FormatCurrency(EstimateTotalProjectCost(...))
```

NotebookLM

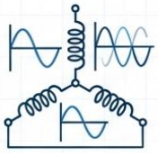
Bridging Didactics and Practice: The Simulation Environment



DC Technology



AC Technology



Three-Phase Technology

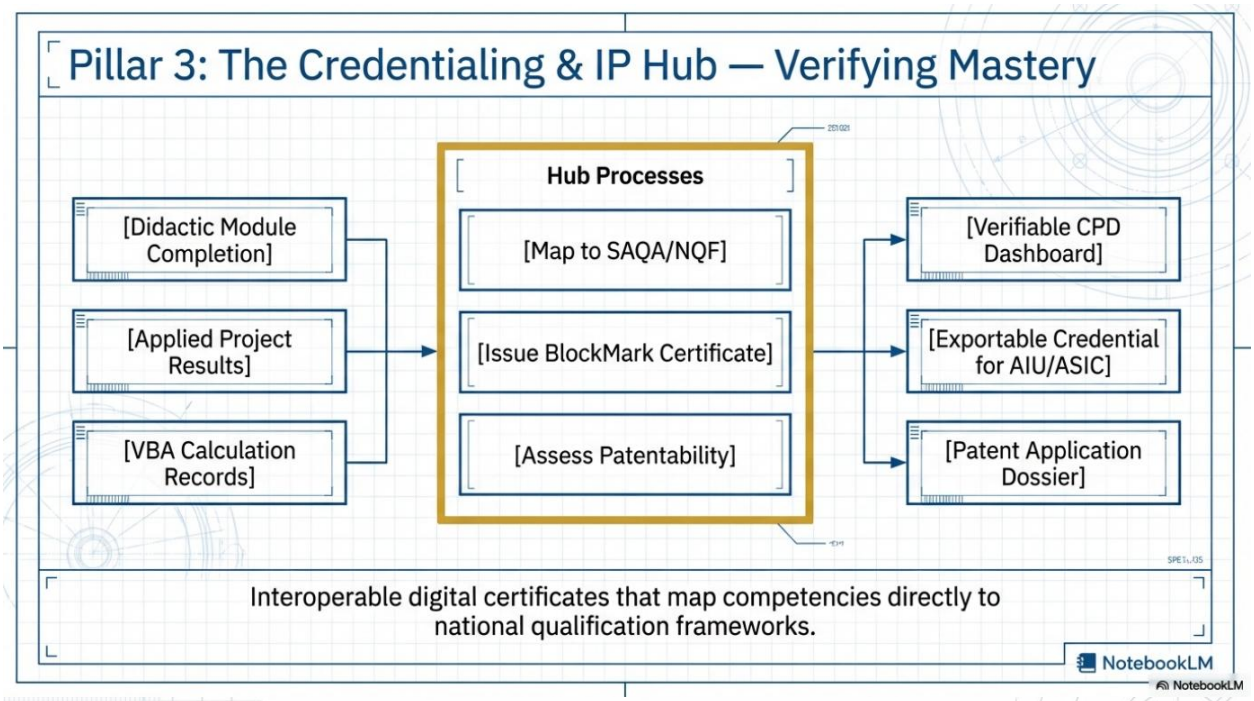
KNX® Building Automation

Data Structure: UniTrain Trainee Tracking

```
' Module: UniTrainICredentialTracker
Type UniTrainTrainee
    Name As String
    CourseCode As String
    DC_Module As Boolean
    AC_Module As Boolean
    ThreePhase_Module As Boolean
    FaultsResolved As Integer
    TotalFaults As Integer
    CertificationStatus As String
End Type
```

The system integrates with hands-on training platforms like Lucas-Nülle UniTrain to log physical fault simulations into the digital ledger.

NotebookLM



The Mechanics of Verification: Blockchain-Ready Credentials

The system integrates with BlockMark Technologies to issue secure, verifiable digital certificates.

BlockMark Certificate Issuance Price List (VAT Excl.)

Item	Price (credits)	Paid for by
Issue a certificate with an expiry date	£1 (100) per year	Issuer
Issue a non-expiring certificate	£10 (1000)	Issuer
Issue a CPD folder with a certificate	£1 (100) per year	Issuer
Stamp a hash of an issued certificate on blockchain	£1 (100)*	Issuer

*Coming soon (currently beta-testing with no charge)

NotebookLM

From Research to Asset: A Structured Path to Patentability

Patentability Criteria

1. **Novelty:** Not publicly disclosed before filing.
2. **Utility:** Must function and serve a useful purpose.
3. **Inventive Step:** Not obvious to a skilled professional in the field.

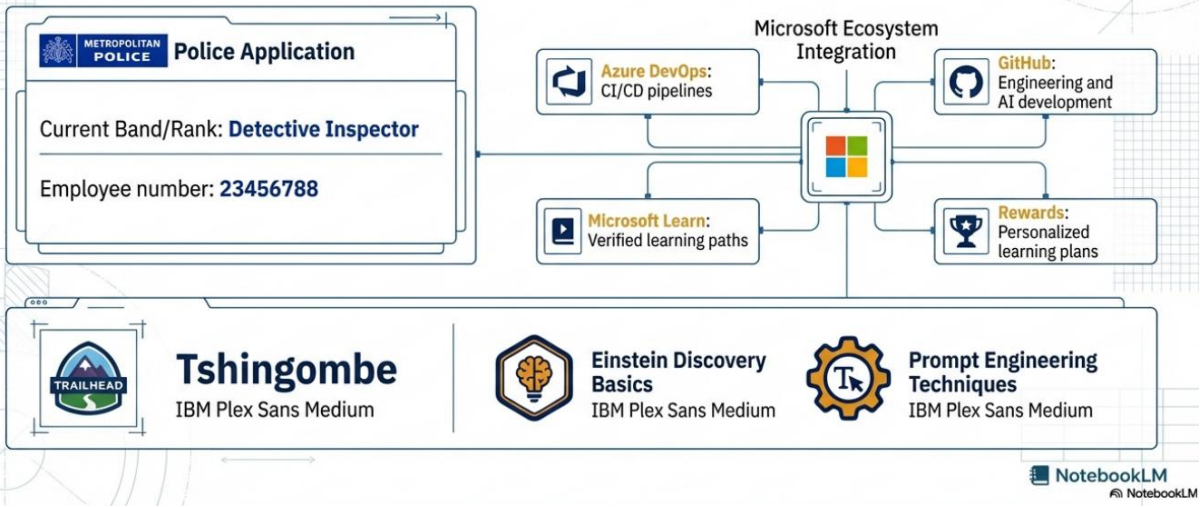
Reference: `URFIST Paris` patent tutorials and `Espacenet` database for prior art searches.

VBA Logic for Patent Tracking

```
' Module: Research and Patent Lifecycle Tracker
Type ResearchPatentProject
    ProjectID As String

    ScopeDefined As Boolean
    MethodologySet As Boolean
    PatentNovelty As Boolean
    PatentUtility As Boolean
    PatentInventiveStep As Boolean
    PatentFiled As Boolean
    CertificationStatus As String
End Type
```

NotebookLM

Case Study: Tshingombe's Integrated Career Engine



NotebookLM

Mapping to National Standards: SAQA NQF Level 3

The platform's data model aligns with rigorous national qualification frameworks.

SAQA ID 63790: National Certificate: Electrical Engineering (NQF Level 3, 133 Credits)			
Component	**Unit Standard ID**	**Title**	**Credits**
Core	258963	Install, test and maintain electrical equipment in a hazardous location	10
Core	113924	Install and commission DC and AC machines and control gear	10
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	5
Elective	259097	Carry out a detailed inspection and repair defects on explosion prevention apparatus	6

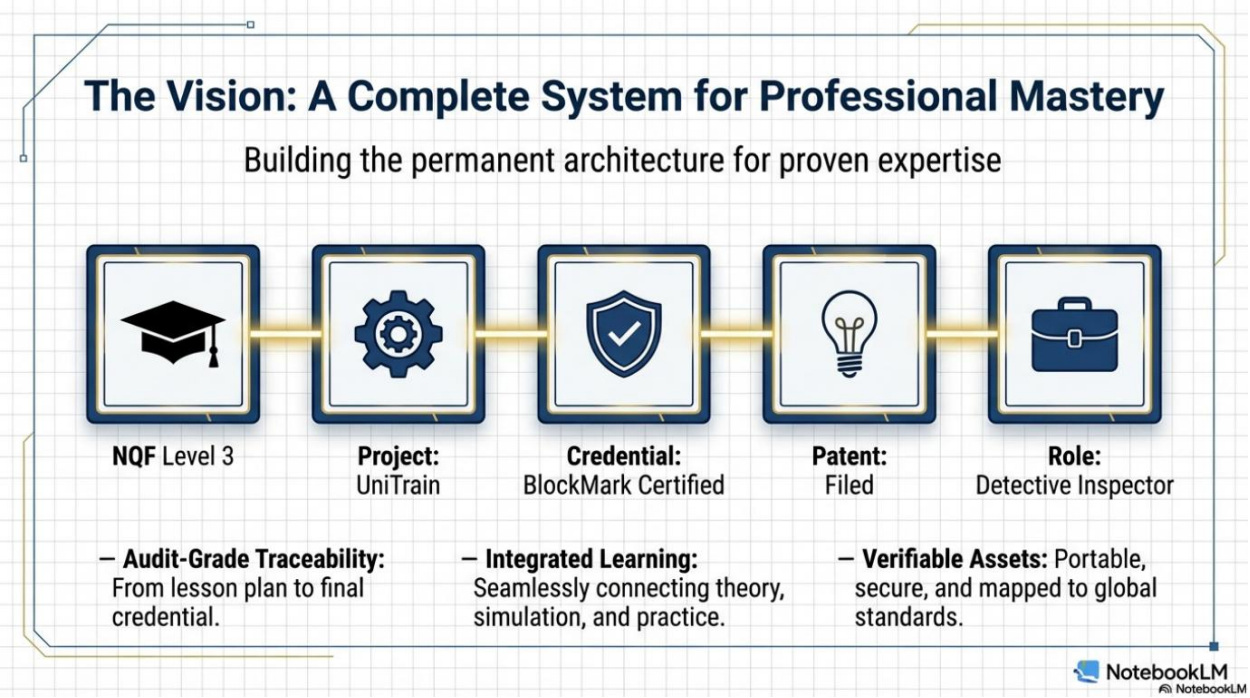
NotebookLM

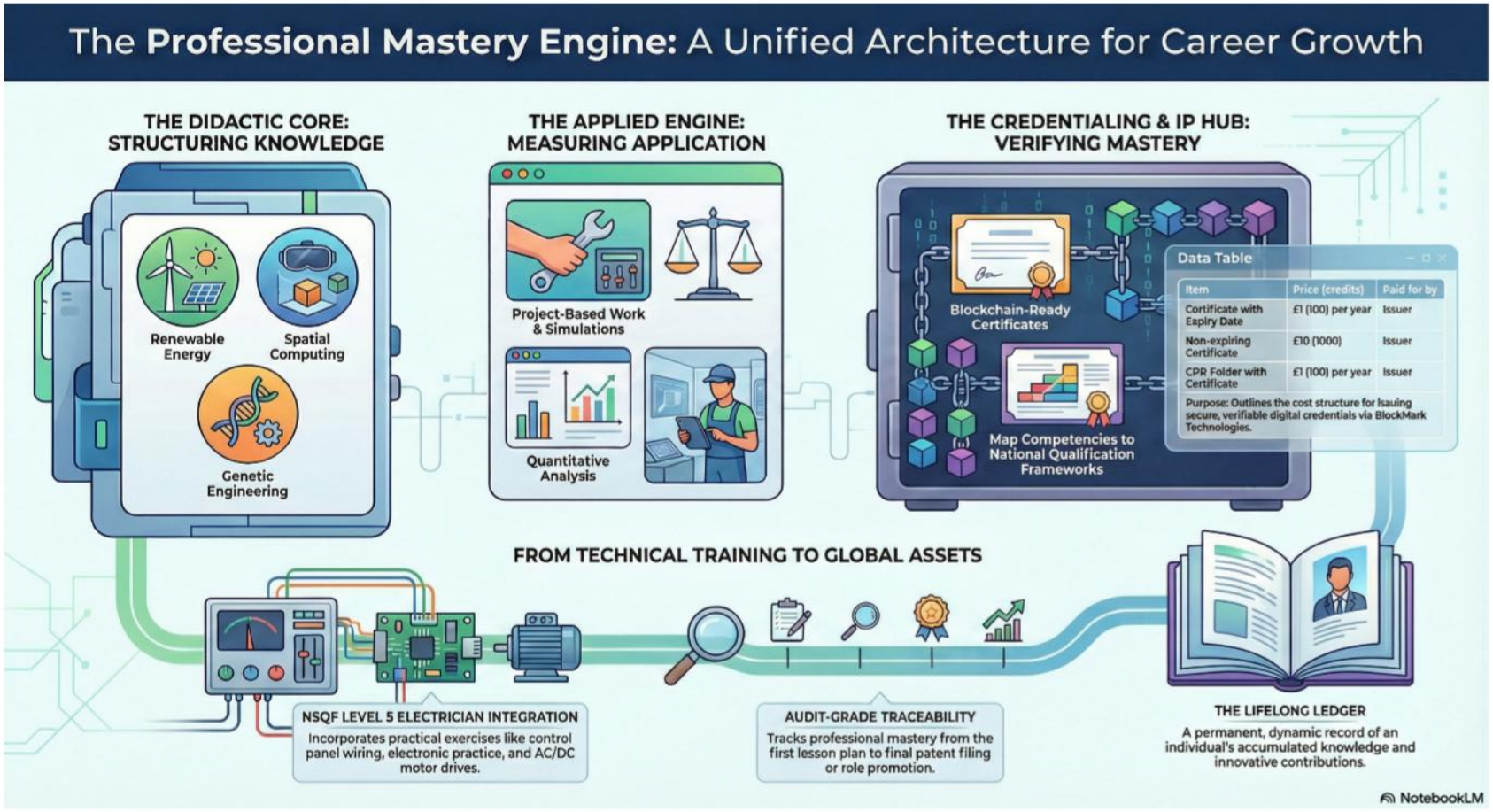
International Application: The French Brevet de Technicien Supérieur (BTS)

Granular mapping of professional activities to certified competencies.

Professional Activities	Certified Competencies
– Étude - Conception préliminaire *(Preliminary study & design)*	– Modéliser le comportement de tout ou partie d'un ouvrage *(Model system behavior)*
– Conception - étude détaillée du projet *(Detailed project design)*	– Dimensionner les constituants *(Dimension components)*
– Analyse – diagnostic *(Analysis – diagnostic)*	– Proposer l'architecture d'un ouvrage *(Propose system architecture)*
– Maintenance d'une installation électrique *(Maintenance of an electrical installation)*	– Gérer et conduire le projet/chantier *(Manage the project)*
– Conduite de projet/chantier *(Project management)*	

NotebookLM


The Vision: A Complete System for Professional Mastery
Building the permanent architecture for proven expertise
NQF Level 3
Project: UniTrain
Credential: BlockMark Certified
Patent: Filed
Role: Detective Inspector
– Audit-Grade Traceability: From lesson plan to final credential.
– Integrated Learning: Seamlessly connecting theory, simulation, and practice.
– Verifiable Assets: Portable, secure, and mapped to global standards.
NotebookLM


The Professional Mastery Engine: A Unified Architecture for Career Growth
THE DIDACTIC CORE: STRUCTURING KNOWLEDGE
Renewable Energy
Spatial Computing
Genetic Engineering
THE APPLIED ENGINE: MEASURING APPLICATION
Project-Based Work & Simulations
Quantitative Analysis
THE CREDENTIALING & IP HUB: VERIFYING MASTERY
Blockchain-Ready Certificates
Map Competencies to National Qualification Frameworks
Data Table
Item
Price (credits)
Paid for by
Certificate with Expiry Date
£1 (100) per year
Issuer
Non-expiring Certificate
£10 (1000)
Issuer
CPR Folder with Certificate
£1 (100) per year
Issuer
Purpose: Outlines the cost structure for issuing secure, verifiable digital credentials via BlockMark Technologies.
FROM TECHNICAL TRAINING TO GLOBAL ASSETS
NSQF LEVEL 5 ELECTRICIAN INTEGRATION
Incorporates practical exercises like control panel wiring, electronic practice, and AC/DC motor drives.
AUDIT-GRADE TRACEABILITY
Tracks professional mastery from the first lesson plan to final patent filing or role promotion.
THE LIFELONG LEDGER
A permanent, dynamic record of an individual's accumulated knowledge and innovative contributions.
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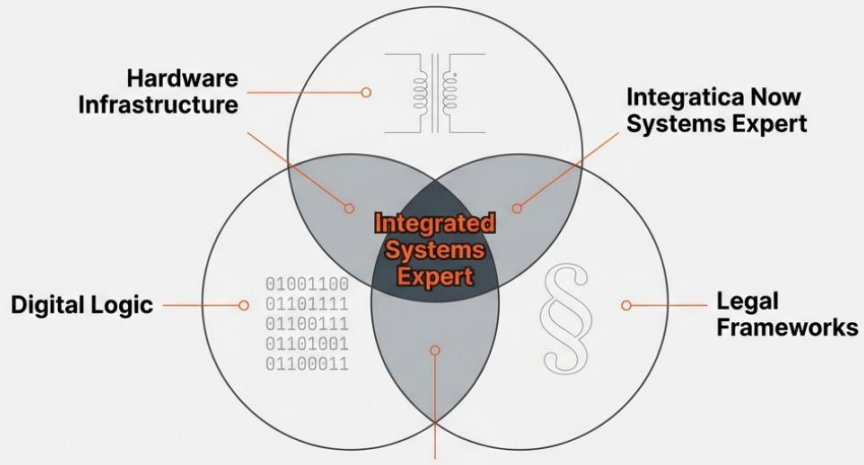
Multidisciplinary Systems Portfolio

Bridging Electrical Engineering, Software Development, and Regulatory Compliance



Tshingombe Tshitadi Fiston

NotebookLM

Executive Profile

Engineering Competence

- Advanced electrical assessment & PV Installation (6.5 to 250kw)
- Substation Operations: MV/LV Transformers
- Smart Metering Technology (MKM35512 Series)
- Recent Role: Senior Engineering Portfolio (Microsoft/Schneider Electric)

Software & DevOps

- Full-stack capability: Visual Basic & Excel VBA Automation
- Azure DevOps Management
- Database Systems & SQL

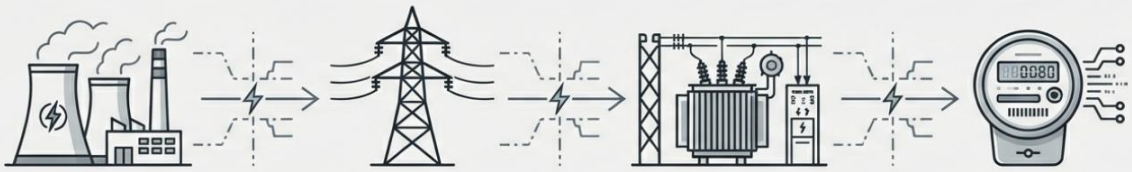
Legal Strategy

- South African Labor Law (LRA) & CCMA Dispute Resolution
- High Court Litigation Processes
- Domestic Violence Act & Protection Orders
- Former Context: Detective/Inspector Roles (Met Police UK/PSIRA)

Education: Diploma in Engineering (Alison) | St Peace College (Electrical Certificate) | SAQA Accredited Qualifications

NotebookLM

Electrical Infrastructure & Power Systems



Generation

Transmission
(138kV / 69kV)

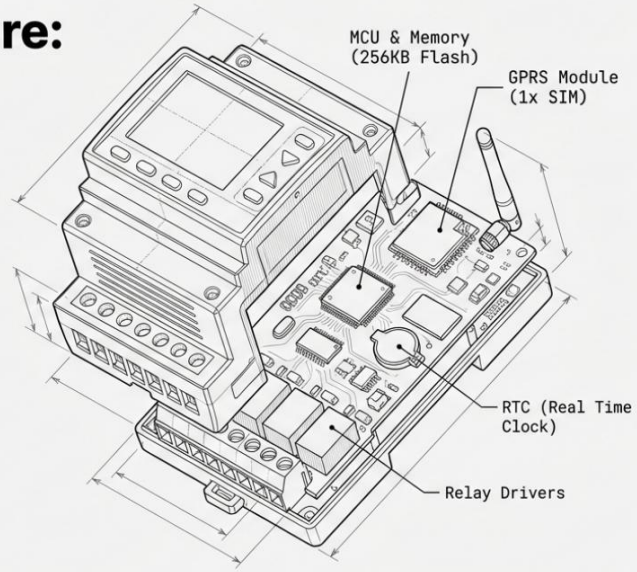
Substation (MV/LV)
26kV Submission -> 13kV/4kV
Primary Customer

Smart Metering
Data Processing

PV Grid Integration	Protection Systems	Connection
6.5kw to 250kw (Grid-tied)	SPD (Surge Protection Devices), Main Station Substation Protocols	Utility DB Network Integration

NotebookLM

Hardware Architecture: Smart Metering (MKM35512 Series)



Technical Specifications

- Voltage/Freq: 240 VAC (+20%), 50Hz (+5%)
- Current: 0-60A (10A nominal, dynamic to 72A)
- Accuracy: Class 0.5 (0.5%)

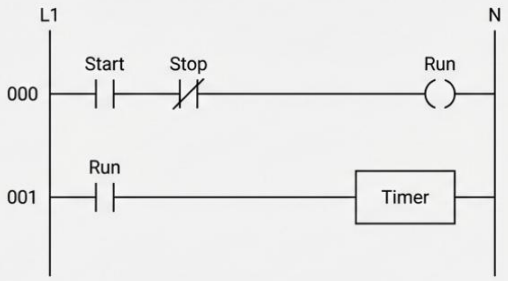
Measurement Logic

- Active Energy Algorithm: $P = 1/T \int u\, i\, dt$
- Reactive Energy Algorithm: $Q = 1/T \int u(-90)\, i\, dt$

Education: Diploma in Engineering (Alison) | St Peace College (Electrical Certificate) | SAQA Accredited Qualifications

NotebookLM

Industrial Automation & PLC Programming



PLC IP Addressing: 10.126.224.221

```
COMMAND STRING STRUCTURE:

Cmd = cmd + '5000' (Sub Head)
Cmd = cmd + 'FF' (PLC Number)
Cmd = cmd + '03ff' (Demand Object)
Cmd = cmd + '0401' (Read Command)
```

Hardware Context: TeSys T LTM R Motor Management Controller
(Motor protection & wiring analysis)

NotebookLM

Software Development: Banking Systems

Automated Teller Machine (ATM) System (VB.NET & MS Access)

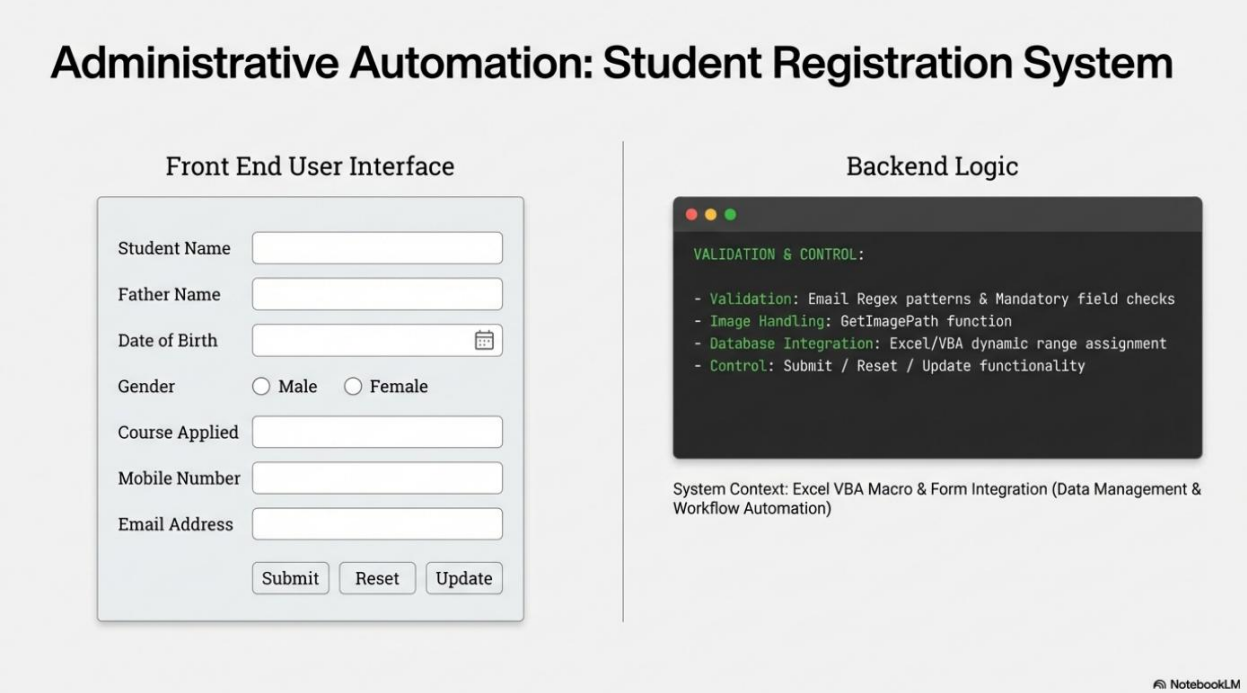
Front End

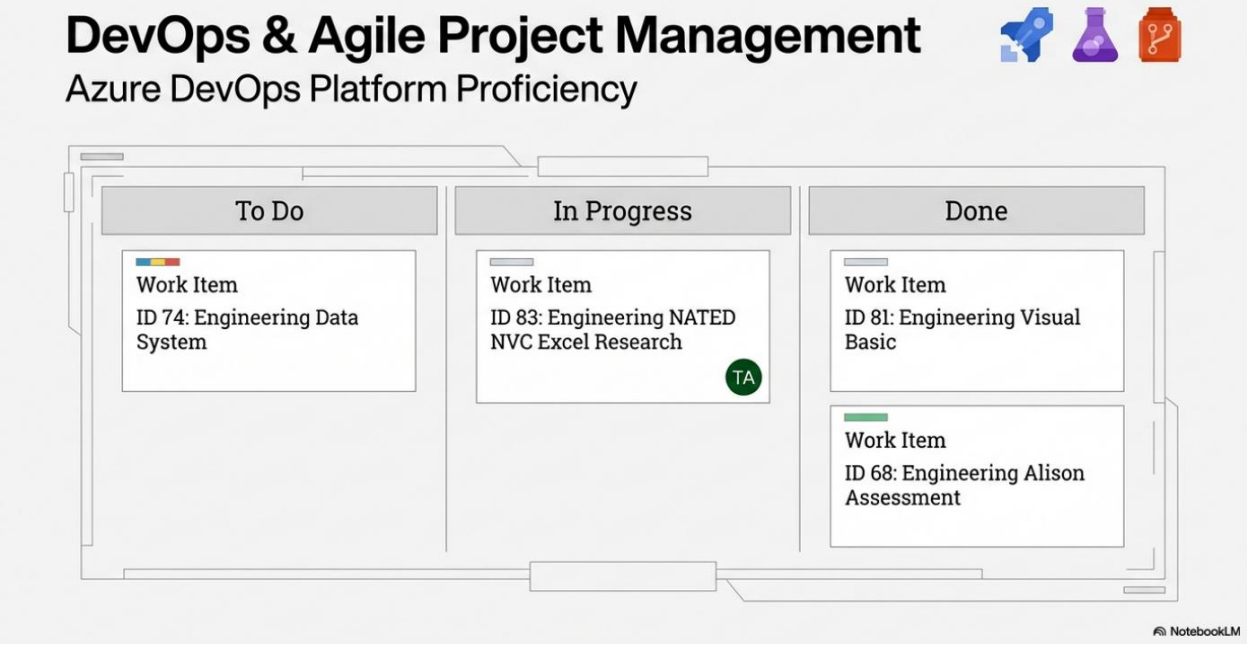
Back End

```
AUTHENTICATION & LOGIC:
Const pin = 9343
Dim balance as decimal = 150
Const ServiceCharge = 6.5

Function Deposit(ByRef amount as decimal)
    Balance = amount
    Return balance
End Function
```

Education: Diploma in Engineering (Alison) | St Peace College (Electrical Certificate) | SAQA Accredited Qualifications

NotebookLM


Administrative Automation: Student Registration System
Front End User Interface
Student Name
Father Name
Date of Birth
Gender
Male
Female
Course Applied
Mobile Number
Email Address
Submit
Reset
Update
Backend Logic
VALIDATION & CONTROL:
- Validation: Email Regex patterns & Mandatory field checks
- Image Handling: GetImagePath function
- Database Integration: Excel/VBA dynamic range assignment
- Control: Submit / Reset / Update functionality
System Context: Excel VBA Macro & Form Integration (Data Management & Workflow Automation)
NotebookLM


DevOps & Agile Project Management
Azure DevOps Platform Proficiency
To Do
Work Item
ID 74: Engineering Data System
In Progress
Work Item
ID 83: Engineering NATED NVC Excel Research
TA
Done
Work Item
ID 81: Engineering Visual Basic
Work Item
ID 68: Engineering Alison Assessment
NotebookLM

Legal Domain: Labor Law & Dispute Resolution

Litigation Portfolio
Section 145 Reviews: Case JR 2461/15
Labour Appeal Court Petition: Case JA 37/19
Dispute Types: Unfair Dismissal, Rescission Rulings, Section 189

Procedural Knowledge
• CCMA (Commission for Conciliation, Mediation and Arbitration) • Bargaining Councils (PSIRA) • LRA Form 7.13 (Request for Arbitration) • Filing of Court Records and Transcripts

NotebookLM

Civil Protection & Constitutional Frameworks

Domestic Violence Act 116 of 1998 & Protection from Harassment Act

Application
DOJ Online System (URN 4702024FCV001046)

→

Interim Order
Prima Facie Evidence

→

Service
SAPS / Sheriff Delivery

→

Final Order
Court Hearing & Confirmation

Domestic Relationship
Requires shared residence or specific relationship definition.

Harassment
No relationship required. Covers stalking, electronic harassment.

NotebookLM

Regulatory Compliance: POPIA (Data Privacy)

Protection of Personal Information Act – Employer Perspective

Compliance Checklist
Define Roles: Responsible Party (Employer) vs Data Subject (Employee)
Processing Limitation: Consent & Lawful Purpose
Security Safeguards: Prevent loss, damage, or unauthorized access
Medical Testing: Compliance with Section 23 Employment Equity Act
Risk Management: Information Officer Appointment

Non-Compliance Consequences: Fines R1m – R10m or Imprisonment

NotebookLM

Security Industry & Law Enforcement Operations

Operational Training & Scope

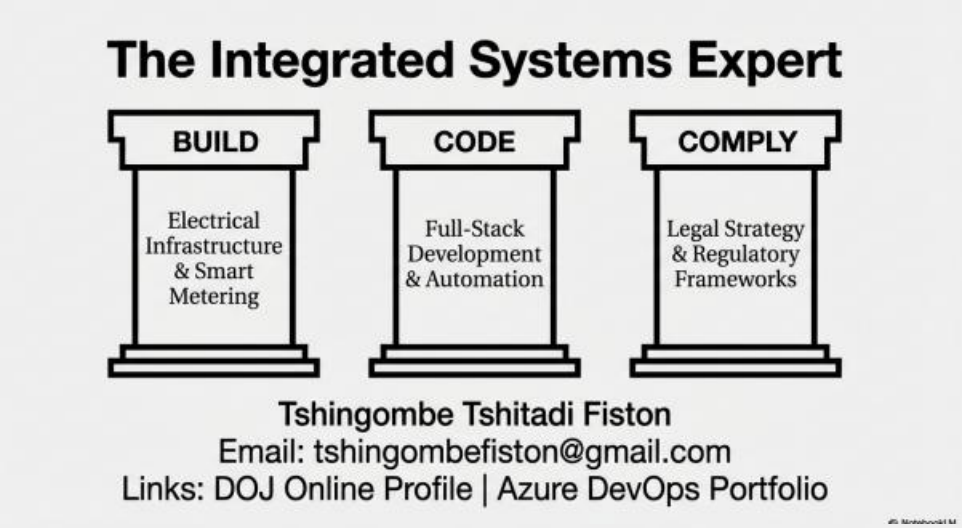
1. Applied Policing and Crime Resolution
2. Crime Scene Management
3. Principles of Police Investigation
4. Community Policing and Communication Skills
5. Operational Performance in Traffic Management
6. Study Material for Police Firearms

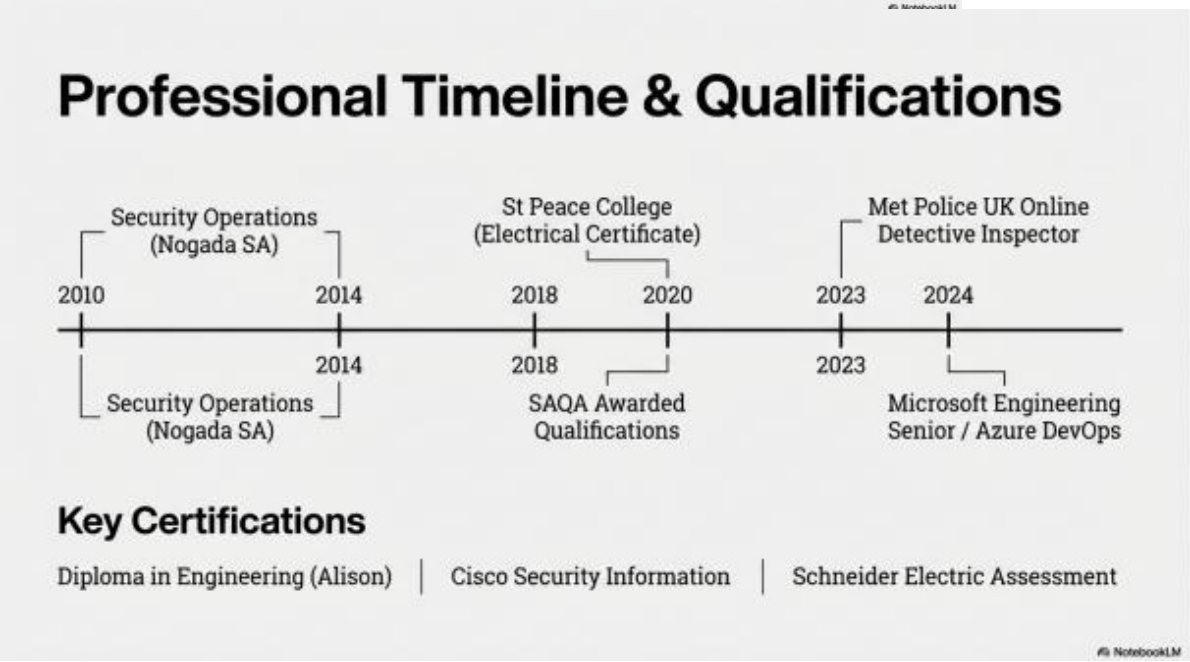
Regulatory Bodies

- SAPS: Police Service Act vs Public Service Act
- PSIRA: Private Security Industry Regulatory Authority Compliance

NotebookLM

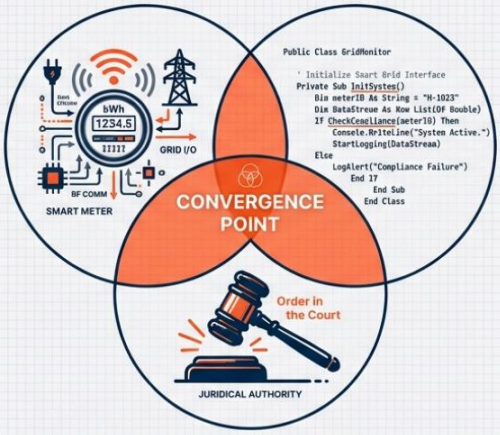
Advocacy & Social Justice
Activism Row & Human Rights Festival Participation
Right to Fair Trial & Access to Justice
Refugee and Migrant Rights
Economic and Social Rights
Women's Rights & Gender Equality
Aligning technical and legal organizational goals with broad social justice movements.


The Integrated Systems Expert
BUILD
Electrical Infrastructure & Smart Metering
CODE
Full-Stack Development & Automation
COMPLY
Legal Strategy & Regulatory Frameworks
Tshingombe Tshitadi Fiston
Email: tshingombefiston@gmail.com
Links: DOJ Online Profile | Azure DevOps Portfolio


Professional Timeline & Qualifications
Security Operations (Nogada SA)
St Peace College (Electrical Certificate)
Met Police UK Online Detective Inspector
2010
2014
2018
2020
2023
2024
2014
2018
2023
Security Operations (Nogada SA)
SAQA Awarded Qualifications
Microsoft Engineering Senior / Azure DevOps
Key Certifications
Diploma in Engineering (Alison)
Cisco Security Information
Schneider Electric Assessment

INTEGRATED SYSTEMS ARCHITECTURE & COMPLIANCE PORTFOLIO

TSHINGOMBE TSHITADI FISTON



ENGINEERING	SOFTWARE	LEGAL ADVOCACY
Critical Infrastructure, Smart Grids, PLC Automation.	Financial Technology, MIS, Crime Informatics.	Labour Law, Civil Procedure, Regulatory Compliance.

NotebookLM

THE CONVERGENCE OF TECHNOLOGY & REGULATION

Technical expertise requires a foundation in law and compliance. This portfolio demonstrates the lifecycle of professional practice—from designing the circuit to defending the rights of the operator.

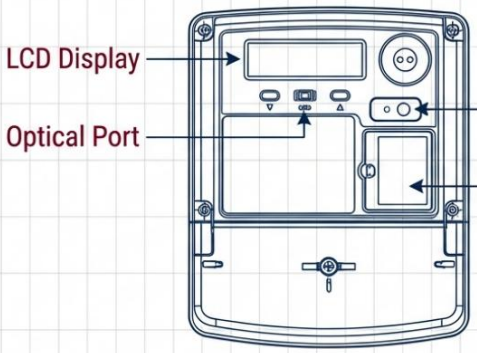
Engineering: Installation and commissioning of **MKM35512** Series **Smart Meters** and Motor Management Controllers (**TeSys**).

Development: **VB.NET** and **C#** architecture for ATMs and Crime Heatmap algorithms.

Advocacy: High Court Appeals (Case Ja 37/19) and CCMA Arbitration (Case JR 2461/15).

NotebookLM

ENERGY INFRASTRUCTURE: SMART METERING DESIGN

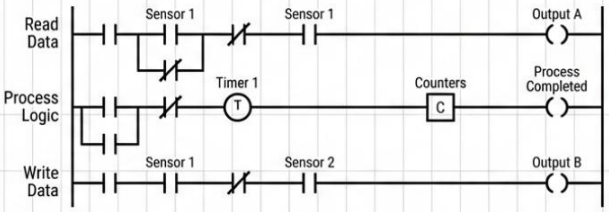


MKM35512 So Three Phase Smart Meter	
Device Class	Three Phase AC Static Watt Hour Smart Meter (Class 0.5)
Voltage	Nominal 240 VAC +20%
Current	Range 0-60A (Dynamic 72A)
MCU	Micro Controller Unit with Anti-Tamper Interface

Generation Station → Transmission (138kV) → Substation → Primary Customer (13kV) → Smart Meter Endpoint

NotebookLM

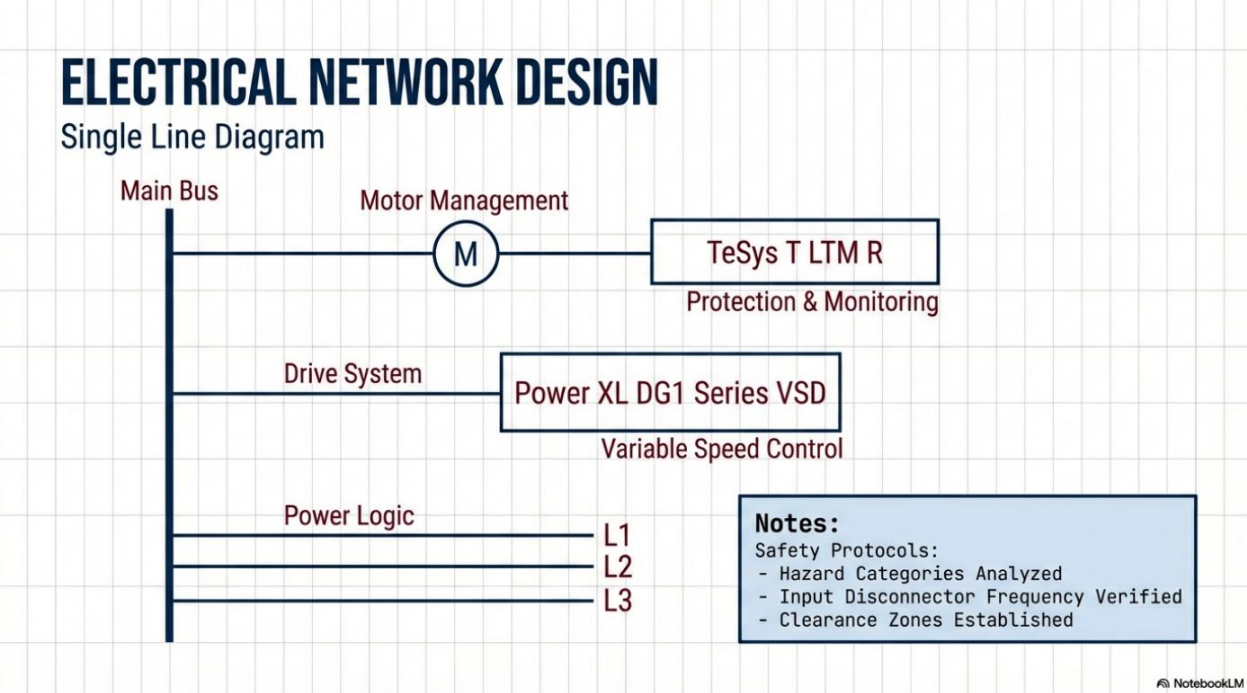
INDUSTRIAL AUTOMATION & PLC LOGIC

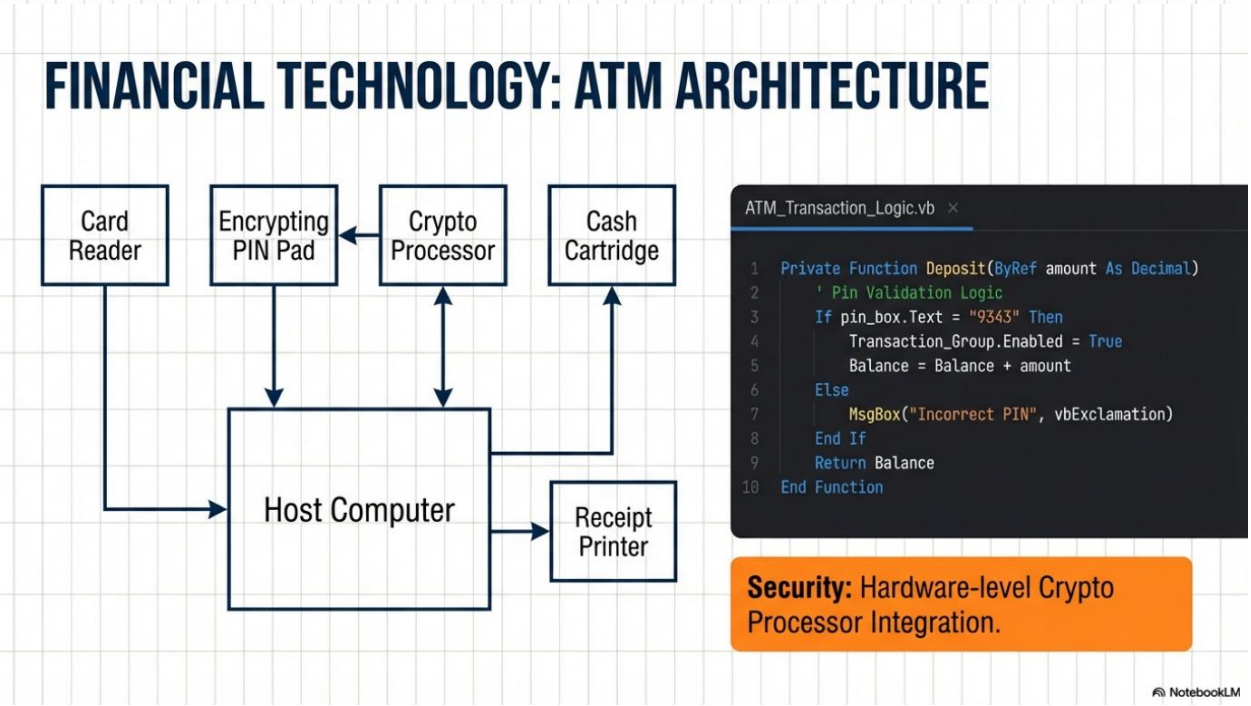


Integration: C# Application layer interfacing with PLC hardware via memory addressing.

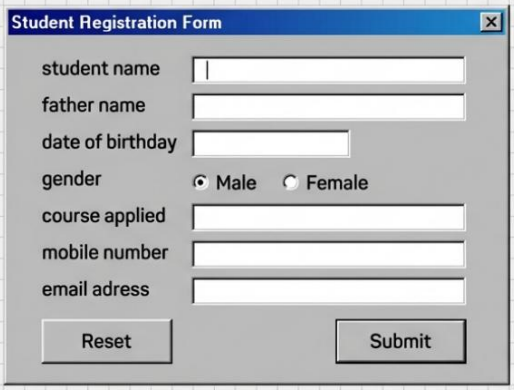
```
COMMAND: READ_DATA_PLC
HEX STREAM: 5000000fff03ff000018000a04010000d*009500000001

[DECODE]:
> 5000 : Sub Head
> FF   : PLC Number
> 03FF : Demand Object
> 000A : CPU Inspector Data
```

NotebookLM


ELECTRICAL NETWORK DESIGN
Single Line Diagram
Main Bus
Motor Management
M
TeSys T LTM R
Protection & Monitoring
Drive System
Power XL DG1 Series VSD
Variable Speed Control
Power Logic
L1
L2
L3
Notes:
Safety Protocols:
- Hazard Categories Analyzed
- Input Disconnector Frequency Verified
- Clearance Zones Established
NotebookLM


FINANCIAL TECHNOLOGY: ATM ARCHITECTURE
Card Reader
Encrypting PIN Pad
Crypto Processor
Cash Cartridge
Host Computer
Receipt Printer
ATM_Transaction_Logic.vb
Private Function Deposit(ByRef amount As Decimal)
' Pin Validation Logic
If pin_box.Text = "9343" Then
Transaction_Group.Enabled = True
Balance = Balance + amount
Else
MsgBox("Incorrect PIN", vbExclamation)
End If
Return Balance
End Function
Security: Hardware-level Crypto Processor Integration.
NotebookLM

ADMINISTRATIVE MIS: STUDENT REGISTRATION

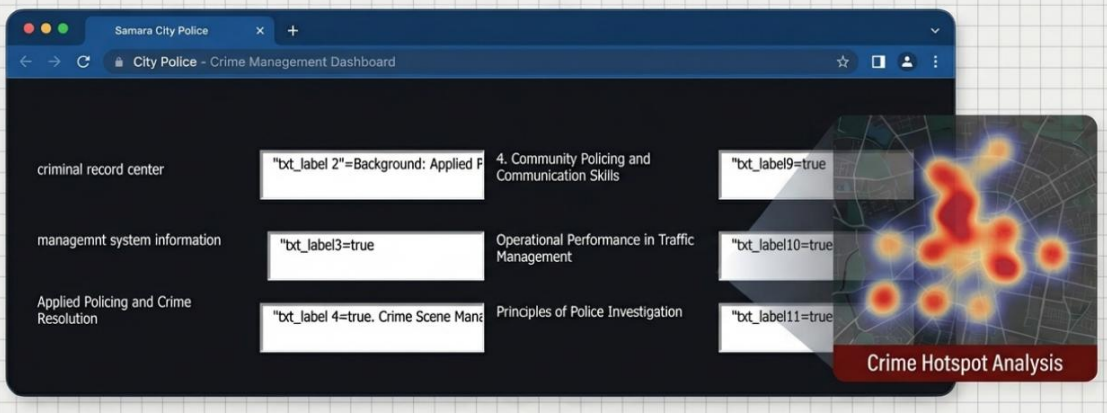



```
Sub Submit_Data()
   ' Validate Entries
   If txtStudentName.Text = "" Then Exit Sub
   ' Write to Database Sheet
   Cells(Row, 1).Value = txtStudentName.Text
   Cells(Row, 2).Value = txtCourse.Text
End Sub
```

Full-stack implementation using Excel VBA for frontend data entry and backend database management.

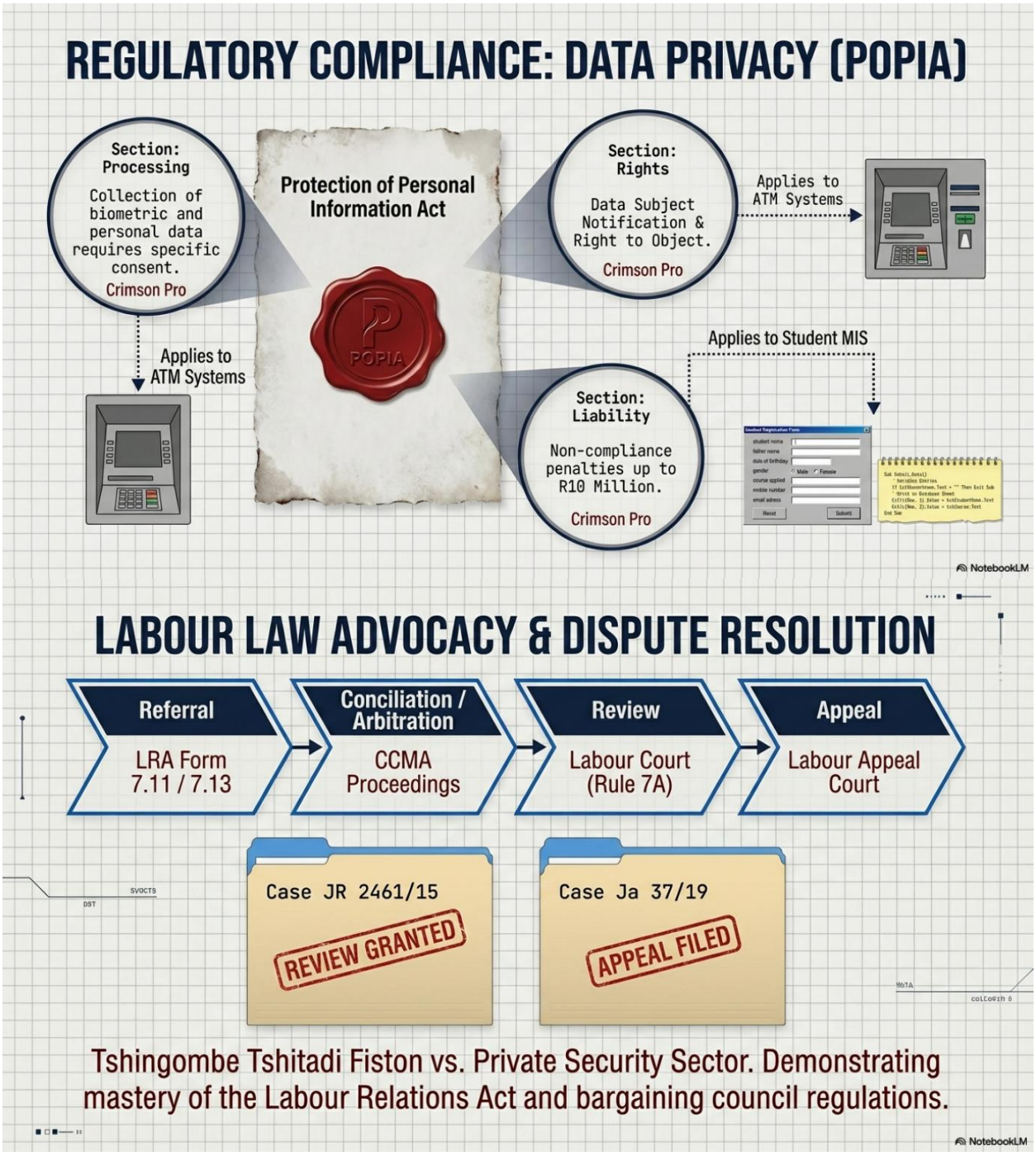
NotebookLM

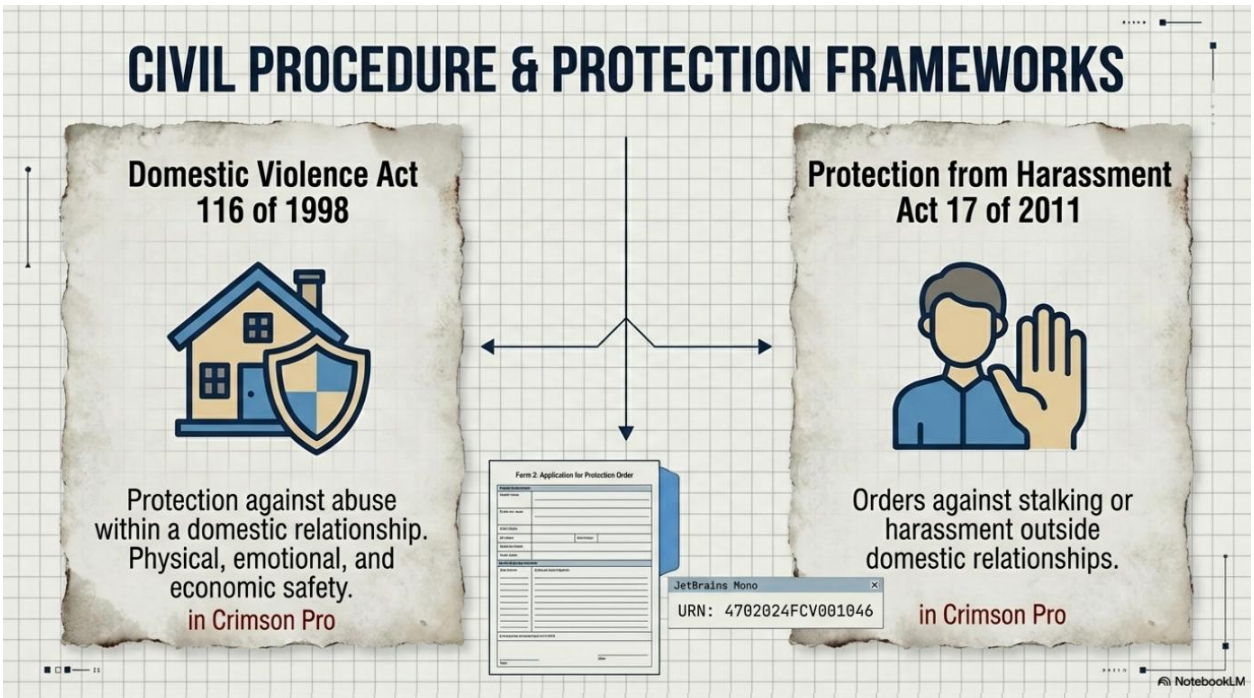
PUBLIC SAFETY: CRIME MANAGEMENT SYSTEM



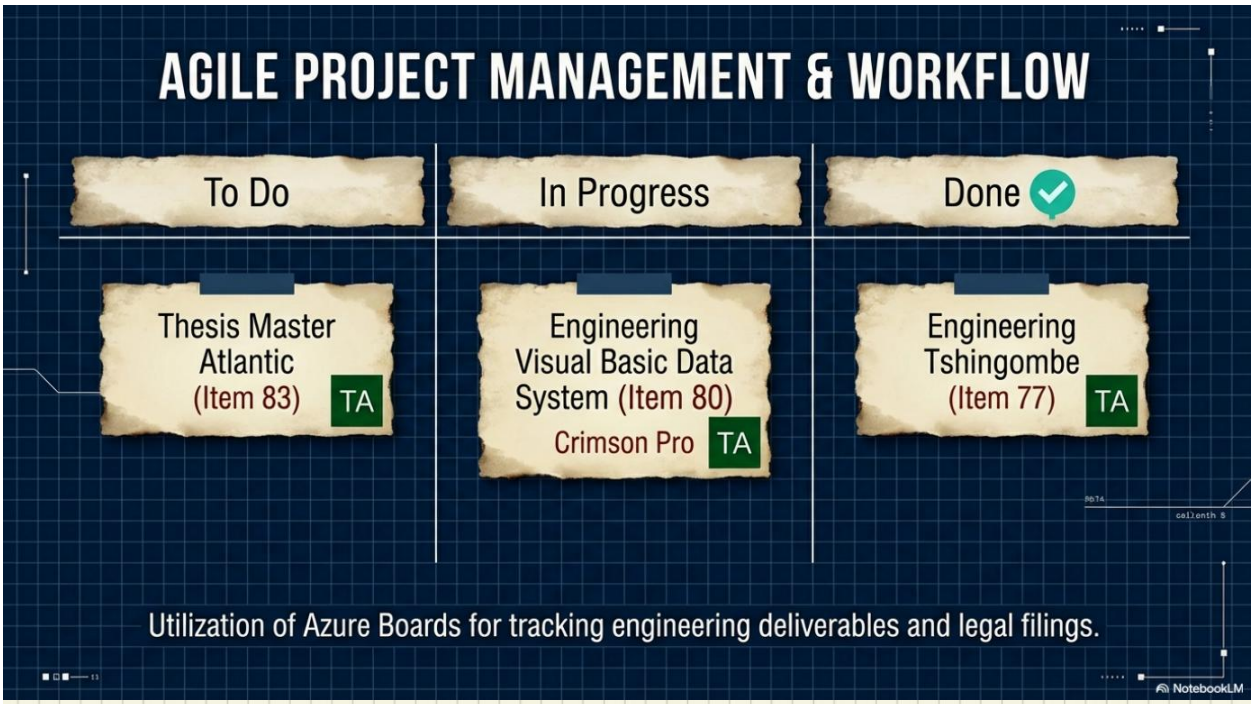
Digital Policing Modules: 1. Online Complaint Filing 2. Incident Collision Scenarios 3. Patrol Allocation Algorithms

NotebookLM


REGULATORY COMPLIANCE: DATA PRIVACY (POPIA)
Section: Processing
Collection of biometric and personal data requires specific consent.
Crimson Pro
Protection of Personal Information Act
POPIA
Section: Rights
Data Subject Notification & Right to Object.
Crimson Pro
Applies to ATM Systems
Applies to ATM Systems
Applies to Student MIS
Section: Liability
Non-compliance penalties up to R10 Million.
Crimson Pro
NotebookLM
LABOUR LAW ADVOCACY & DISPUTE RESOLUTION
Referral
LRA Form 7.11 / 7.13
Conciliation / Arbitration
CCMA Proceedings
Review
Labour Court (Rule 7A)
Appeal
Labour Appeal Court
Case JR 2461/15
REVIEW GRANTED
Case Ja 37/19
APPEAL FILED
Tshingombe Tshitadi Fiston vs. Private Security Sector. Demonstrating mastery of the Labour Relations Act and bargaining council regulations.
NotebookLM

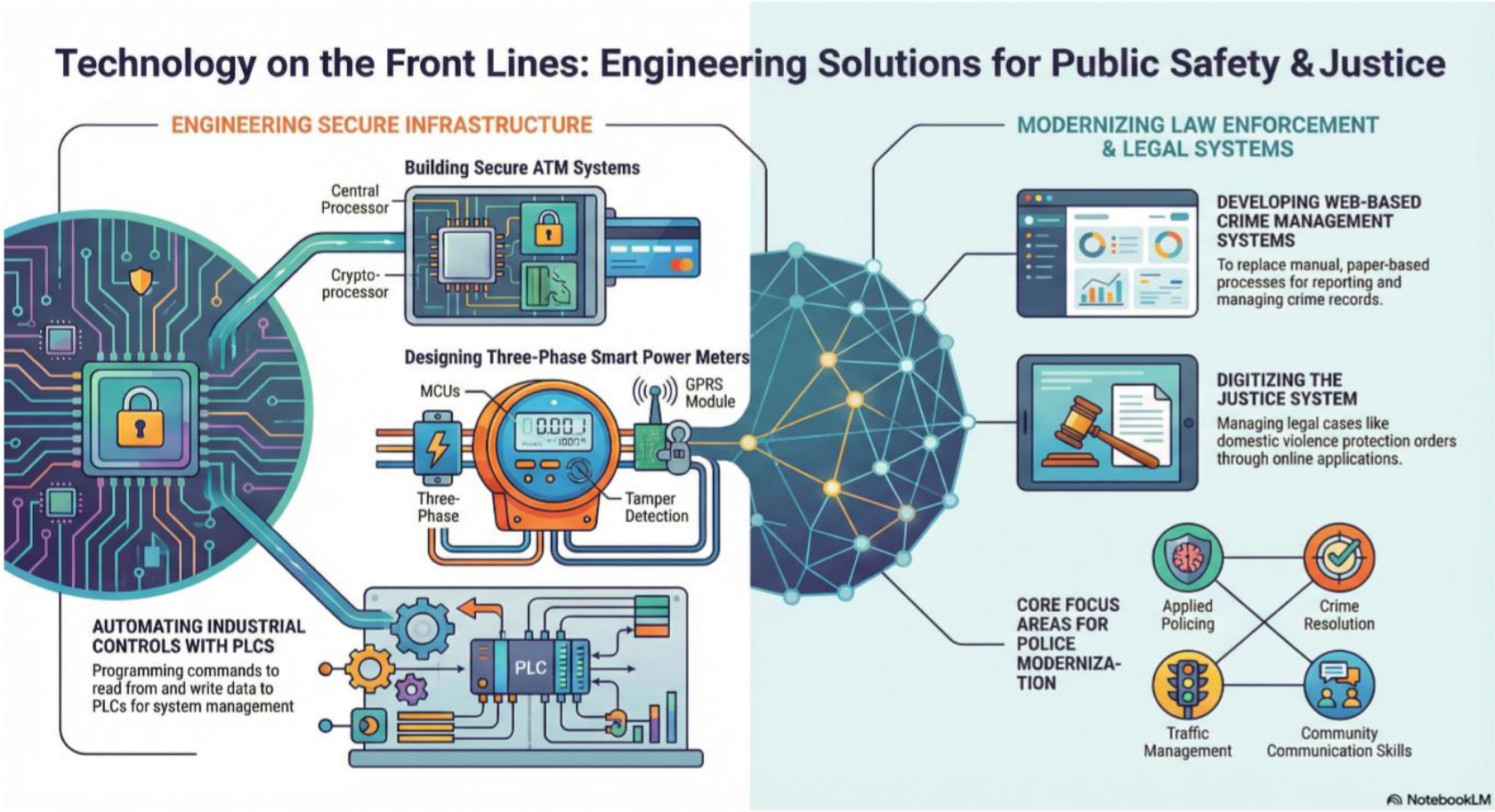

CIVIL PROCEDURE & PROTECTION FRAMEWORKS
Domestic Violence Act 116 of 1998
Protection against abuse within a domestic relationship. Physical, emotional, and economic safety.
in Crimson Pro
Protection from Harassment Act 17 of 2011
Orders against stalking or harassment outside domestic relationships.
in Crimson Pro
Form 2: Application for Protection Order
JetBrains Mono
URN: 4702024FCV001046
NotebookLM

PROFESSIONAL CERTIFICATION & DEVELOPMENT
Schneider Electric
Schneider Electric
Assessment Expert - Physical Security
in Crimson Pro
Microsoft
Microsoft Certified
Security Policy Information System & Azure Defender
in Crimson Pro
EATON
Eaton
Security Engineering (2025)
in Crimson Pro
St Peace College / Alison
Diploma in Engineering & Electrical Certificate
in Crimson Pro
Nogada SA (Security)
City Power/Eskom (Physical Security)
Senior Engineering Production
in Crimson Pro
in Crimson Pro
in Crimson Pro
NotebookLM


AGILE PROJECT MANAGEMENT & WORKFLOW
To Do
In Progress
Done
Thesis Master Atlantic (Item 83) TA
Engineering Visual Basic Data System (Item 80) Crimson Pro TA
Engineering Tshingombe (Item 77) TA
Utilization of Azure Boards for tracking engineering deliverables and legal filings.
NotebookLM

REV 2025
SOCIAL JUSTICE & HUMAN RIGHTS ACTIVISM
ACTIVISM ROW 2025
Fair Trial
Economic Rights
Anti-Racism
Connecting technical work and legal battles to a broader fight for social justice.
Championing labour rights in the private security sector and access to fair trials.
Human Rights Festival Participant
NotebookLM

STRATEGIC OUTLOOK
Ready to deploy integrated solutions for critical infrastructure and legal frameworks.
Name: Tshingombe Tshitadi Fiston
Email: tshingombefiston@gmail.com
Location: Hillbrow, Johannesburg / Gauteng
Key References
DOJ Online Case Files
Azure DevOps Work Items
Tshingombe Engineering
NotebookLM


Technology on the Front Lines: Engineering Solutions for Public Safety & Justice
ENGINEERING SECURE INFRASTRUCTURE
Building Secure ATM Systems
Central Processor
Crypto-processor
Designing Three-Phase Smart Power Meters
MCUs
GPRS Module
Three-Phase
Tamper Detection
AUTOMATING INDUSTRIAL CONTROLS WITH PLCS
Programming commands to read from and write data to PLCs for system management
PLC
MODERNIZING LAW ENFORCEMENT & LEGAL SYSTEMS
DEVELOPING WEB-BASED CRIME MANAGEMENT SYSTEMS
To replace manual, paper-based processes for reporting and managing crime records.
DIGITIZING THE JUSTICE SYSTEM
Managing legal cases like domestic violence protection orders through online applications.
CORE FOCUS AREAS FOR POLICE MODERNIZATION
Applied Policing
Crime Resolution
Traffic Management
Community Communication Skills
NotebookLM